MHC-GRX2/RX33

SERVICE MANUAL

US Mdel
Canadian Model
AEP Model
UK Model
MHC-RX33
Australian Model
Mexican Model
MHC-GRX2

- MHC-GRX2/RX33 is composed of following model.
  As for the service manual,it is issued for each component model,then,please refer to it.

COMPONENT MODEL NAME FOR MHC-GRX2/RX33

COMPACT DISC DECK RECEIVER SYSTEM	HCDGRX2/RX33
SPEAKER SYSTEM	SS-J15/J20

SPECIFICATIONS

General

Power requirements
- European model: 230V AC,50/60 Hz
- Mexican model: 120V AC,50/60 Hz
- Australian and South African models: 220-240 V AC,50/60 Hz
- Other models: 120 V AC,60 Hz

Power consumption 80 watts

Dimensions(w/h/d)incl.projecting parts and controls
Approx.280x320x371 mm
(11 1/8x12 5/8x14 5/8 in)

Mass Approx.7.2 kg
(15 lb 14 oz)

Supplied accessories:
AM loop antenna(1)
Remote RM-SG5(1)
FM lead antenna(1)

Design and specifications are subject to change without notice.

PARTS LIST

Ref. No.	Part No.	Description	Remark
		ACCESSORIES & PACKING MATERIALS	
		**********	
	1-475-826-11	REMOTE COMMANDER (RM-SG5)	
	1-501-594-11	ANTENNA,(FM)	
	1-501-374-11	ANTENNA ,LOOP	
	3-862-423-11	MANUAL, INSTRUCTION (ENGLISH)	
	3-862-423-21	MANUAL, INSTRUCTION(FRENCH)	
	3-862-423-31	MANUAL, INSTRUCTION(SPANISH)	
	3-862-423-41	MANUAL, INSTRUCTION(FRENCHI/SPANISH/PORTUGUESE)	
	3-862-423-51	MANUAL, INSTRUCTION(GERMAN)	
	3-862-423-61	MANUAL, INSTRUCTION(DUTCH/ITALIAN)	
	3-862-423-71	MANUAL, INSTRUCTION(SWEDISH/DANISH/FINNISH)	
	3-862-423-81	MANUAL, INSTRUCTION(POLISH/RUSSIAN)	
	4-982-031-01	COVER, BATTERY (for RM-SG5)	

COMPACT Hi-Fi STEREO SYSTEM

SONY®

MICROFILM

9-922-788-11

Sony Corporation
Home A&V Products Company

98B001680-1
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HCD-GRX2/RX33

SERVICE MANUAL

US Model
Canadian Model
HCD-RX33
E Model
Australian Model
HCD-GRX2

Photo : HCD-GRX2

HCD-GRX2/RX33 is the tuner, deck, CD and amplifier section in MHC-GRX2/RX33.

CD SECTION	Model Name Using Similar Mechanism		HCD-G101
	CD Mechanism Type		CX3
	Base Unit Type		KSM-213BCM
	Optical Pick-up Type		KSS-213B/S-N
TAPE DECK SECTION	Model Name Using Similar Mechanism		HCD-G101
	Tape Transport Mechanism Type	DECK-A	TK20FX-SW943-800
		DECK-B	TK20FX-SW943-800

SPECIFICATIONS

AUDIO POWER SPECIFICATIONS:
(U.S.A. model only)
POWER OUTPUT AND TOTAL HARMONIC DISTORTION:
with 6 Ω loads both channels driven, from 70 – 20,000 Hz; rated 25 W per channel minimum RMS power, with no more than 0.9% total harmonic distortion from 250 mW to rated output.

Amplifier section

North American model
Continuous RMS power output
35 W + 35 W (6 Ω at 1 kHz, 10% THD)

Other models
The following measured at AC 110, 220 V 60 Hz;
DIN power output (Rated) 25 W + 25 W (6 Ω at 1 kHz, DIN)
Continuous RMS power output (Reference)
30 W + 30W (6 Ω at 1 kHz, 10% THD)

The following measured at AC 120, 240 V 60 Hz;
DIN power output (Rated) 30 W + 30 W (6 Ω at 1 kHz, DIN)
Continuous RMS power output (Reference)
35 W + 35W (6 Ω at 1 kHz, 10% THD)
Peak music power output (Reference)
400 W

Outputs
PHONES (stereo phone jack) :
accepts headphones of 8 Ω or more
SPEAKER : accepts impedance of 6 to 16 Ω

CD player section

System	Compact disc and digital audio system
Laser	Semiconductor laser (λ = 780 nm) Emission duration: continuous
Laser output	Max. 44.6 µW* *This output is the value measured at a distance of 200 mm from the objective lens surface on the Optical Pick-up Block with 7 mm aperture.
Frequency response	20 Hz – 20 kHz (± 0.5 dB)
Wavelength	780 – 790 nm

Tape deck section

Recording system	4 -track 2 -channel stereo
Frequency response	60 – 13,000 Hz (± 3dB), using Sony TYPE I cassette

— Continued on next page —

MINI Hi-Fi COMPONENT SYSTEM

MICROFILM

SONY®

Tuner section
FM stereo, FM/AM superheterodyne tuner

FM tuner section

Tuning range	87.5 – 108.0 MHz
Antenna	FM lead antenna
Antenna terminal	75 Ω unbalanced
Intermediate frequency	10.7MHz

AM tuner section

Tuning range	
European, Australian and South African models:	531 – 1,602 kHz
Other models:	530 – 1,710 kHz
Antenna	AM loop antenna
Antenna terminals	External antenna terminal
Intermediate frequency	450 kHz

General

Power requirements	
Mexican model:	120 V AC, 50/60 Hz
Australian and South African models:	220 – 240 V AC, 50/60 Hz
Other models:	120V AC, 60Hz
Power consumption	80 W
Dimensions (w/h/d) incl. projecting parts and controls	Approx. 280 × 320 × 371 mm (11 1/8 × 12 5/8 × 14 5/8 in)
Mass	Approx. 7.2 kg (15 lb 14 oz.)
Supplied accessories:	AM loop antenna (1) Remote RM-SG5 (1) FM lead antenna (1)

Design and specifications are subject to change without notice.

SERVICING NOTE

NOTES ON HANDLING THE OPTICAL PICK-UP BLOCK OR BASE UNIT

The laser diode in the optical pick-up block may suffer electrostatic break-down because of the potential difference generated by the charged electrostatic load, etc. on clothing and the human body.
During repair, pay attention to electrostatic break-down and also use the procedure in the printed matter which is included in the repair parts.
The flexible board is easily damaged and should be handled with care.

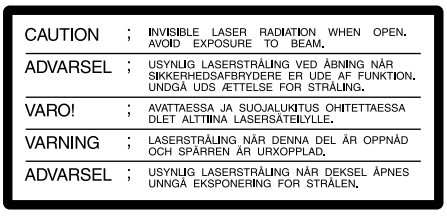
NOTES ON LASER DIODE EMISSION CHECK

The laser beam on this model is concentrated so as to be focused on the disc reflective surface by the objective lens in the optical pick-up block. Therefore, when checking the laser diode emission, observe from more than 30 cm away from the objective lens.

CAUTION
Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

Laser component in this product is capable of emitting radiation exceeding the limit for Class 1.

This appliance is classified as a CLASS 1 LASER product. The CLASS 1 LASER PRODUCT MARKING is located on the rear exterior.


CAUTION ; INVISIBLE LASER RADIATION WHEN OPEN. AVOID EXPOSURE TO BEAM.
ADVARSEL ; USYNLIG LASERSTRÅLING VED ÅBNING NÅR SIKKERHEDSAFBRYDERE ER UDE AF FUNKTION. UNDGÅ UDS ÆTTELSE FOR STRÅLING.
VARO! ; AVATTAESSA JA SUOJALUKITUS OHITETTAESSA OLET ALTTIINA LASERSÄTEILYLLE.
VARNING ; LASERSTRÅLING NÄR DENNA DEL ÄR OPPNÅD OCH SPÄRREN ÄR URXOPPLAD.
ADVARSEL ; USYNLIG LASERSTRÅLING NÅR DEKSEL ÅPNES UNNGÅ EKSPONERING FOR STRÅLEN.

This caution label is located inside the unit.

Notes on chip component replacement
- Never reuse a disconnected chip component.
- Notice that the minus side of a tantalum capacitor may be damaged by heat.

Flexible Circuit Board Repairing
- Keep the temperature of soldering iron around 270˚C during repairing.
- Do not touch the soldering iron on the same conductor of the circuit board (within 3 times).
- Be careful not to apply force on the conductor when soldering or unsoldering.

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

ATTENTION AU COMPOSANT AYANT RAPPORT À LA SÉCURITÉ!

LES COMPOSANTS IDENTIFÉS PAR UNE MARQUE ⚠ SUR LES DIAGRAMMES SCHÉMATIQUES ET LA LISTE DES PIÈCES SONT CRITIQUES POUR LA SÉCURITÉ DE FONCTIONNEMENT. NE REMPLACER CES COMPOSANTS QUE PAR DES PIÈSES SONY DONT LES NUMÉROS SONT DONNÉS DANS CE MANUEL OU DANS LES SUPPÉMENTS PUBLIÉS PAR SONY.

SAFETY CHECK-OUT

After correcting the original service problem, perform the following safety checks before releasing the set to the customer:
Check the antenna terminals, metal trim, "metallized" knobs, screws, and all other exposed metal parts for AC leakage. Check leakage as described below.

LEAKAGE

The AC leakage from any exposed metal part to earth Ground and from all exposed metal parts to any exposed metal part having a return to chassis, must not exceed 0.5 mA (500 microampers). Leakage current can be measured by any one of three methods.

1. A commercial leakage tester, such as the Simpson 229 or RCA WT-540A. Follow the manufacturers' instructions to use these instruments.
2. A battery-operated AC milliammeter. The Data Precision 245 digital multimeter is suitable for this job.
3. Measuring the voltage drop across a resistor by means of a VOM or battery-operated AC voltmeter. The "limit" indication is 0.75 V, so analog meters must have an accurate low-voltage scale. The Simpson 250 and Sanwa SH-63Trd are examples of a passive VOM that is suitable. Nearly all battery operated digital multimeters that have a 2V AC range are suitable. (See Fig. A)

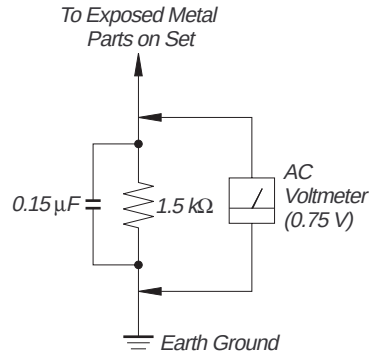


Fig. A. Using an AC voltmeter to check AC leakage.

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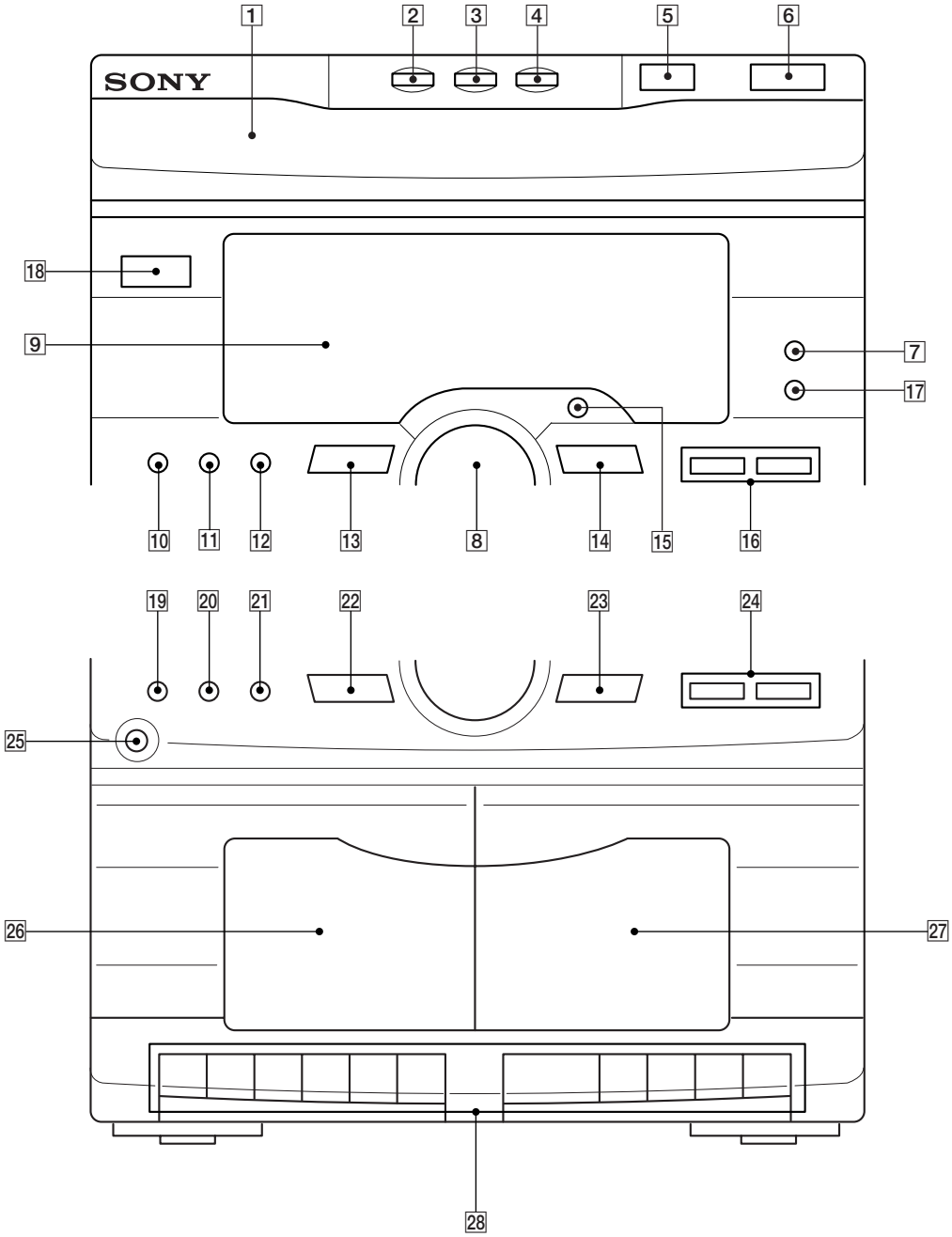
SECTION 1
GENERAL

LOCATION OF PARTS AND CONTROLS

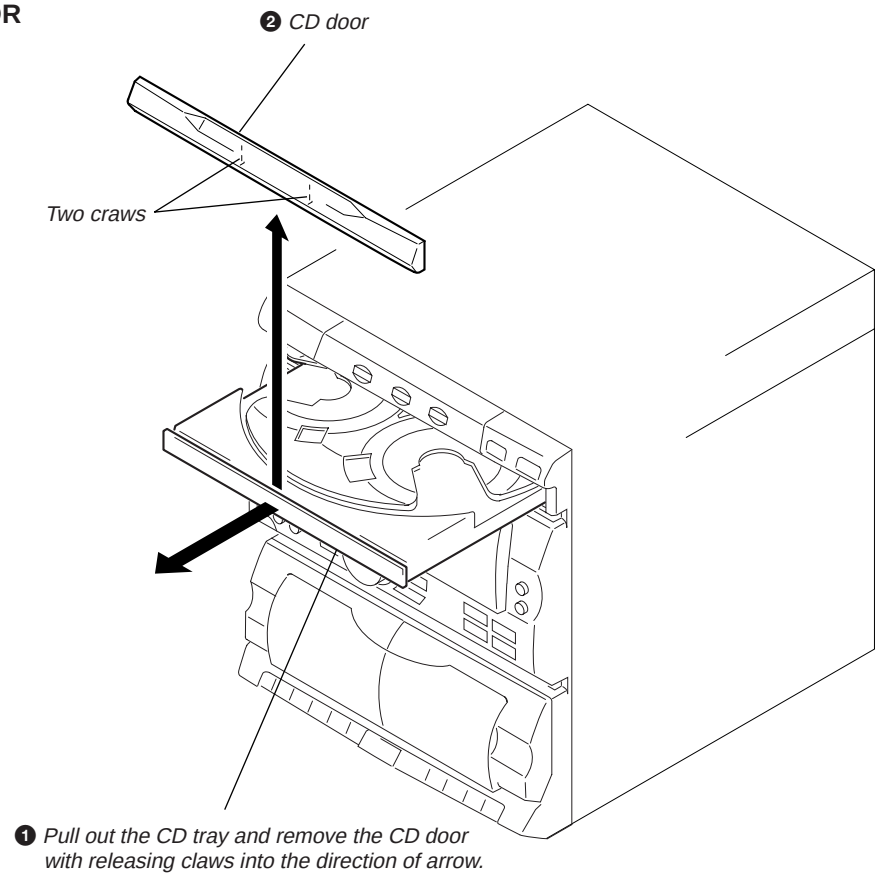


1 Disc tray
2 DISC 1 button
3 DISC 2 button
4 DISC 3 button
5 DISC SKIP button
6 ⏏ OPEN/CLOSE button
7 DBFB button
8 VOLUME knob
9 Display window
10 CLOCK TIMER SET button
11 TIMER ON/OFF button
12 DISPLAY DEMO
13 TUNER/BAND
14 ▷ ▯▯ (play/pause) button
15 ENTER/NEXT button
16 ⏮ ⏭ CD AMS/TUNER PRESET TIMER SET buttons
17 FILE SELECT
18 I/⏻ (POWER) button
19 TUNER MEMORY REPEAT button
20 EDIT button
21 STEREO/M NO, PLAY MODE button
22 TAPE button
23 □ (STOP) button
24 ◀◀ ▶▶ CD/TUNER button
25 PHONES jack
26 Deck A, PLAY/REC
27 Deck B, PLAY
28 Tape operaying buttons
- ● (recording)
- ► (play)
- ◀◀ (fast rening)
- ▶▶ (fast forward)
- ■ ⏏ (stop/eject)
- ▮▮ (pause)

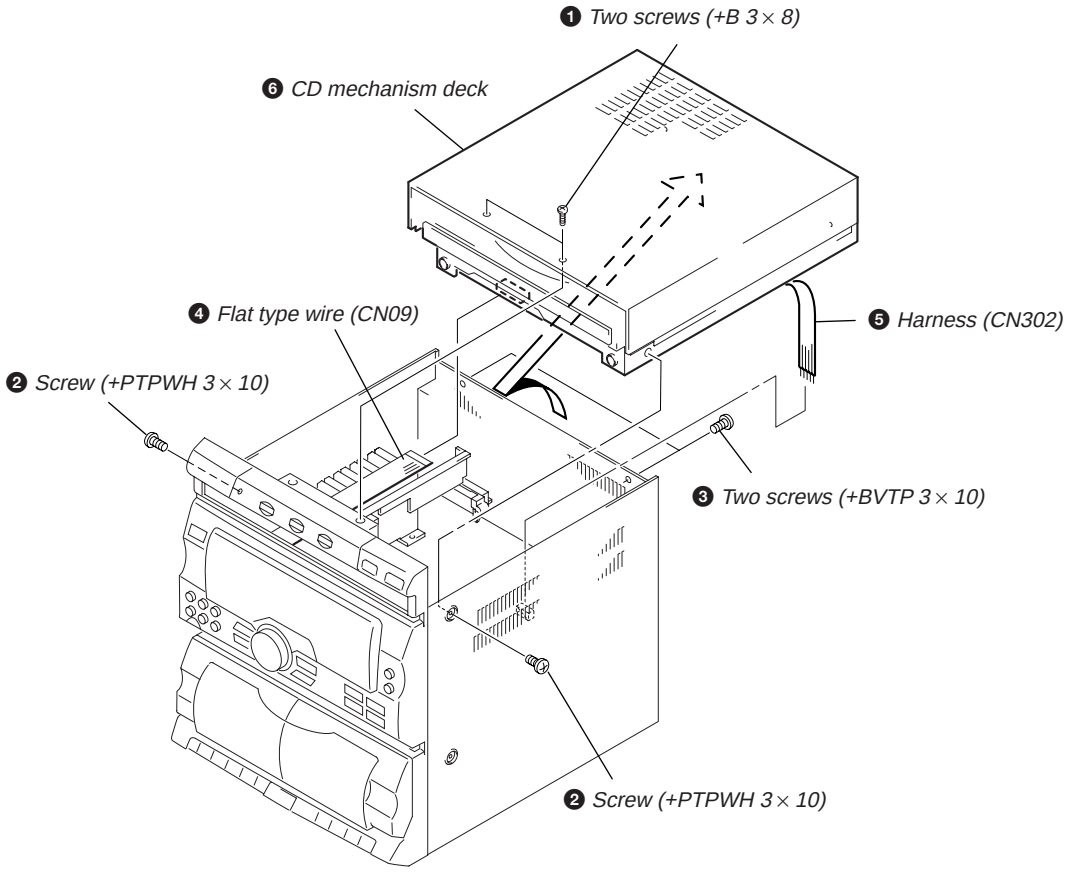
SECTION 2
DISASSEMBLY

Note : Follow the disassembly procedure in the numerical order given.

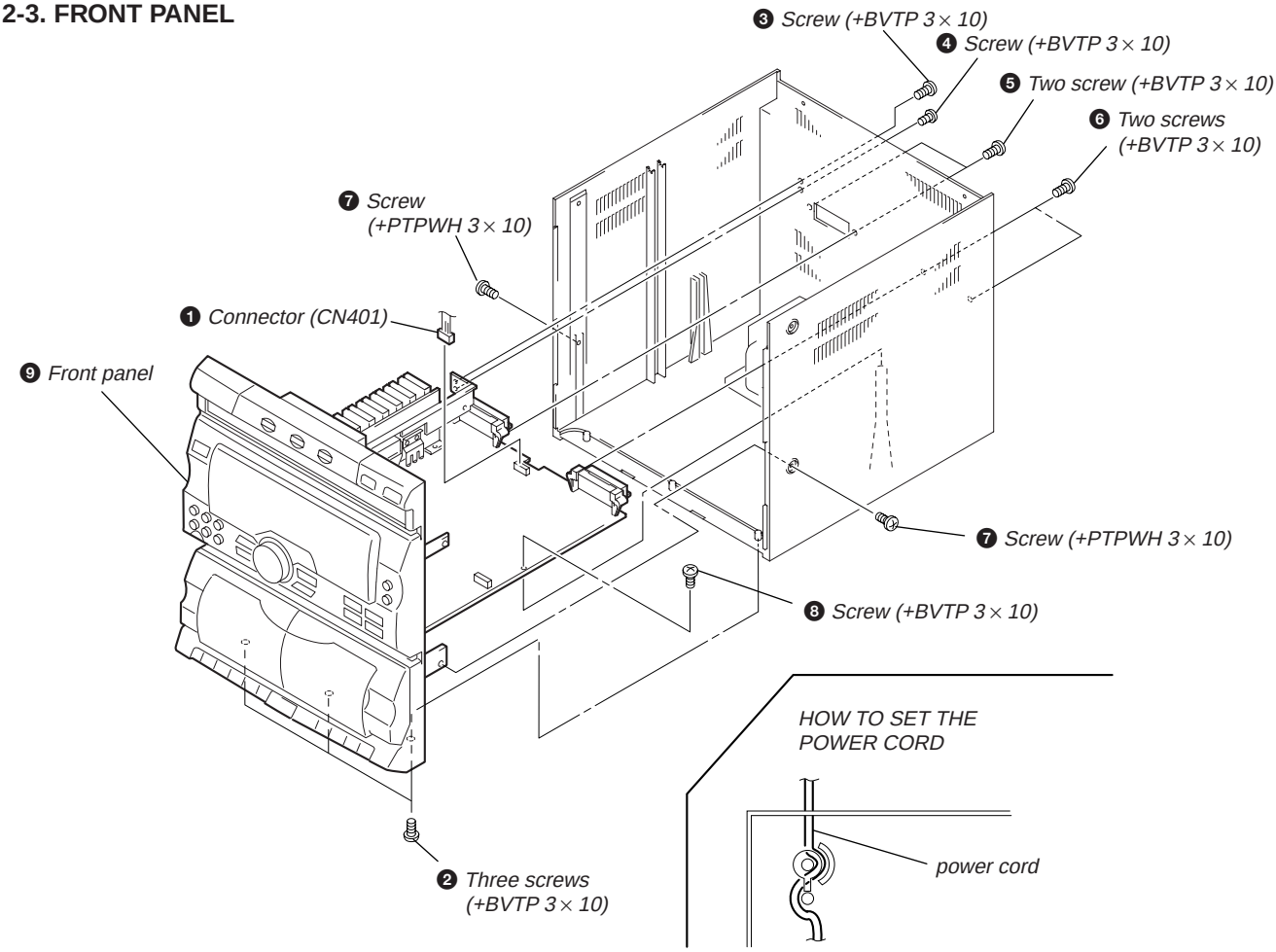
2-1. CD DOOR



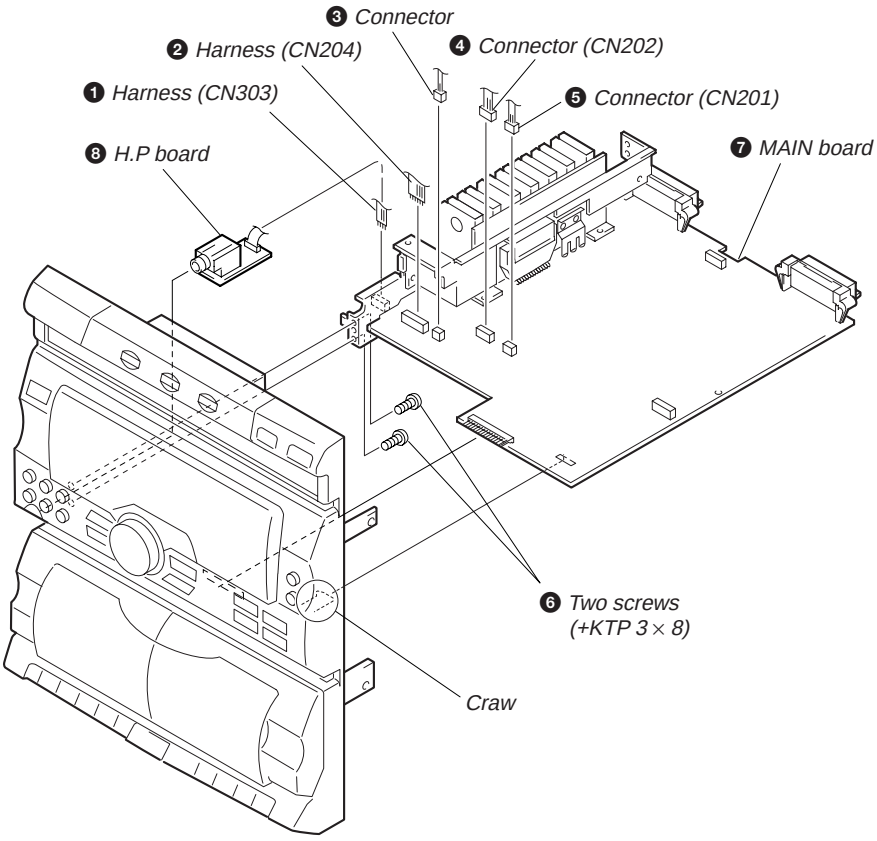
2-2. CD MECHANISM DECK


❶ Two screws (+B 3× 8)
❻ CD mechanism deck
❹ Flat type wire (CN09)
❺ Harness (CN302)
❷ Screw (+PTPWH 3× 10)
❸ Two screws (+BVTP 3× 10)
❷ Screw (+PTPWH 3× 10)

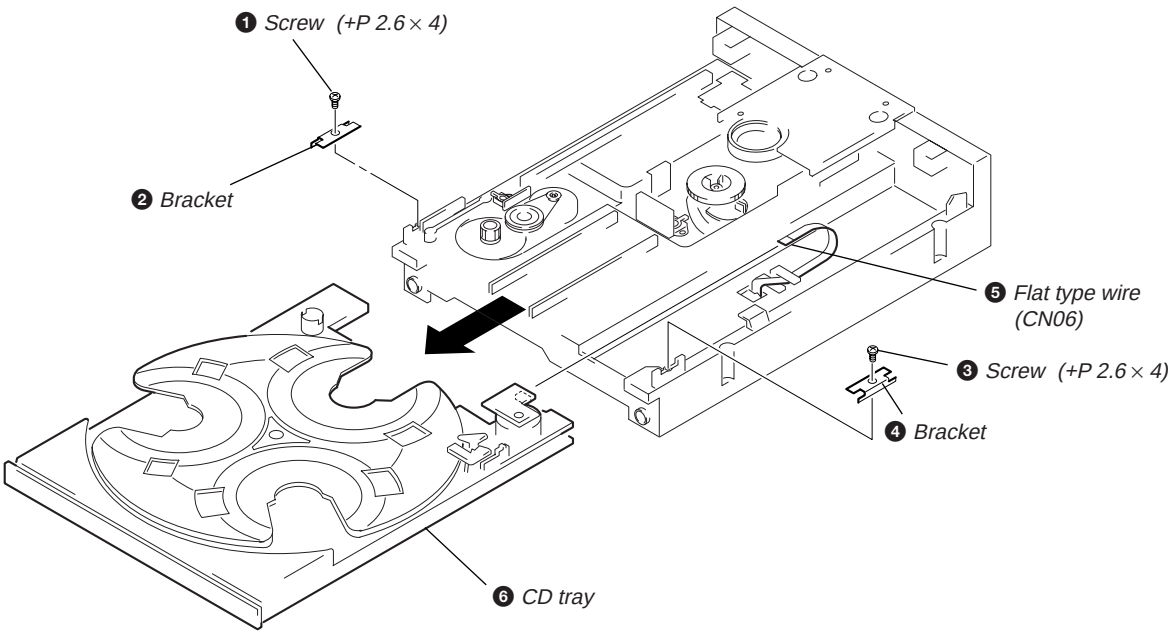
2-3. FRONT PANEL


❸ Screw (+BVTP 3× 10)
❹ Screw (+BVTP 3× 10)
❺ Two screw (+BVTP 3× 10)
❻ Two screws (+BVTP 3× 10)
❼ Screw (+PTPWH 3× 10)
❶ Connector (CN401)
❾ Front panel
❼ Screw (+PTPWH 3× 10)
❽ Screw (+BVTP 3× 10)
❷ Three screws (+BVTP 3× 10)
HOW TO SET THE POWER CORD
power cord

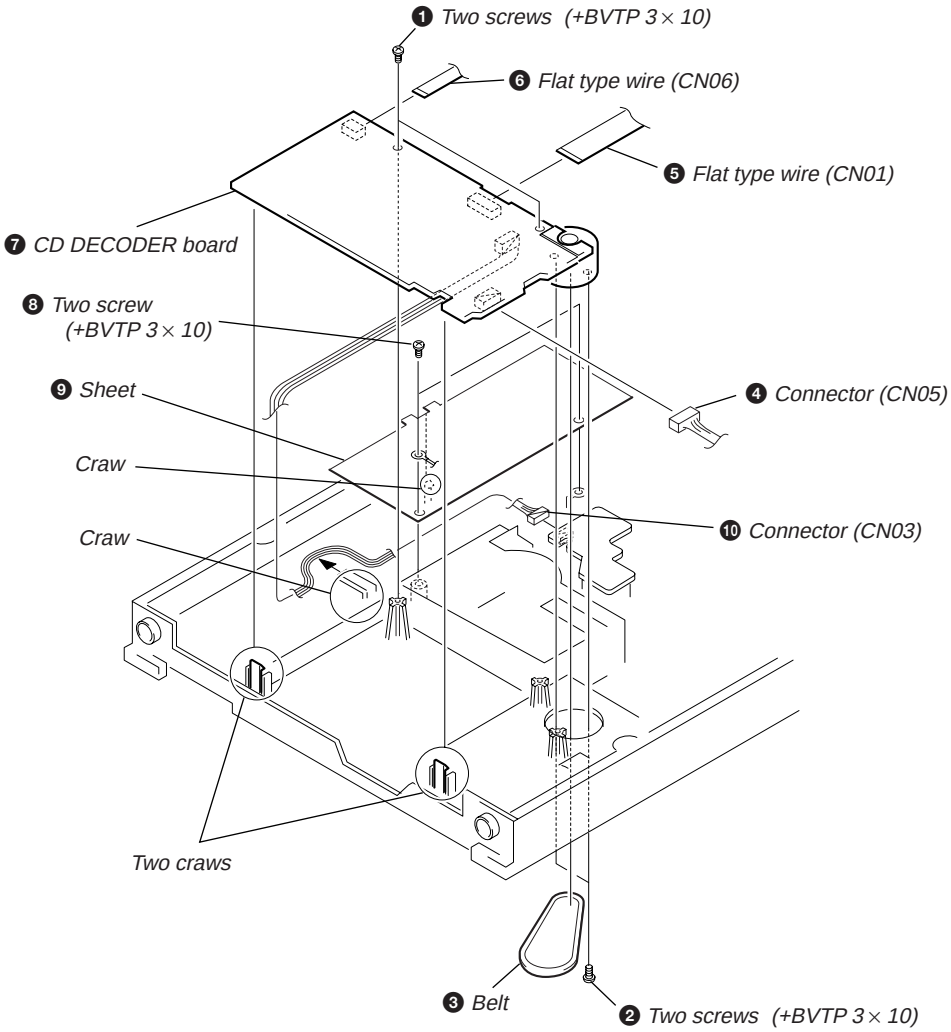
2-4. MAIN BOARD AND H.P BOARD



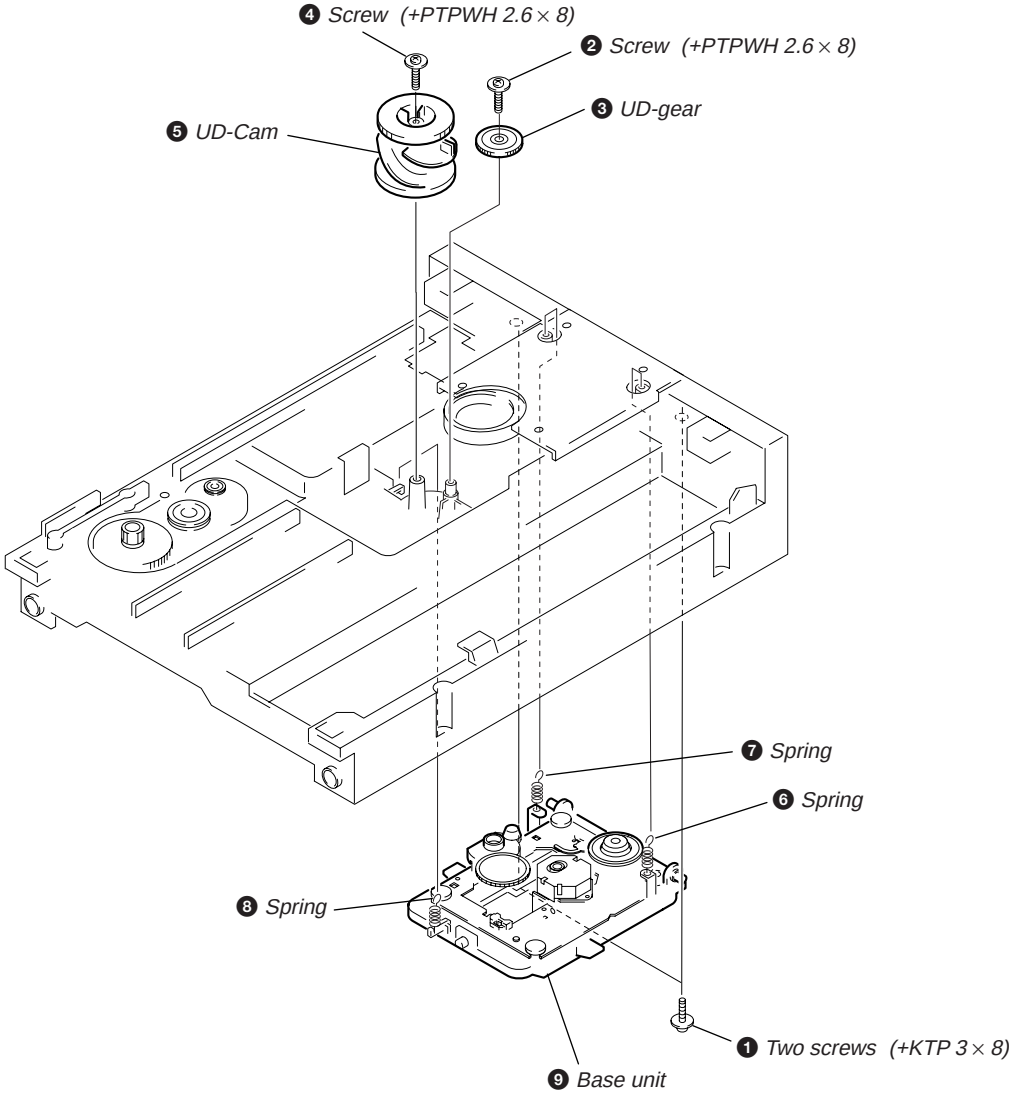
2-5. CD TRAY



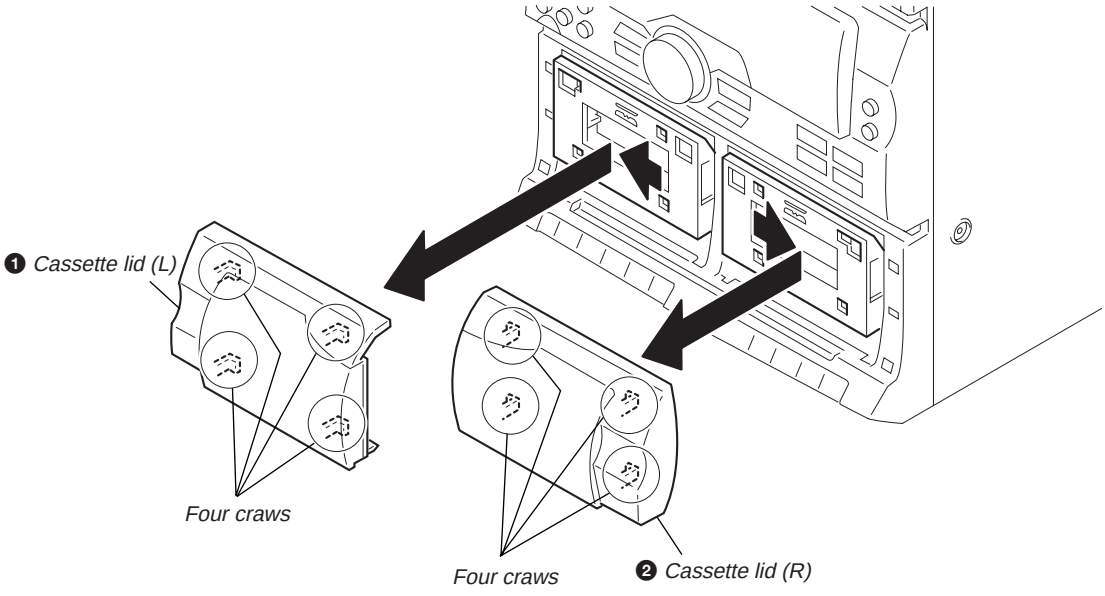
2-6. CD DECODER BOARD



2-7. BASE UNIT



2-8. CASSETTE LID (L) / (R)



SECTION 3
MECHANICAL ADJUSTMENTS

Precaution

1. Clean the following parts with a denatured alcohol-moistened swab:
   record/playback head — pinch rollers
   erase head — rubber belts
   capstan — idlers
2. Demagnetize the record/playback head with a head demagnetizer.
3. Do not use a magnetized screwdriver for the adjustments.
4. After the adjustments, apply suitable locking compound to the parts adjusted.
5. The adjustments should be performed with the rated power supply voltage unless otherwise noted.

Torque Measurement

Torque	Torque meter	Meter reading
FWD	CQ-102C	40 to 70 g • cm (0.56 - 0.97 oz • inch)
FWD back tension	CQ-102C	1 to 5 g • cm (0.01 - 0.07 oz • inch)
FF/REW	CQ-201B	55 to 140 g • cm (0.76 - 1.94 oz • inch)

SECTION 4
ELECTRICAL ADJUSTMENTS

DECK SECTION **0 dB=0.775V**

1. Demagnetize the record/playback head with a head damagnetizer.
2. Do not use a magnetized screwdriver for the adjustments.
3. After the adjustments, apply suitable locking compound to the parts adjusted.
4. The adjustments should be performed with the rated power supply voltage unless otherwise noted.
5. The adjustments should be performed in the order given in this service manual. (As a general rule, playback circuit adjustment should be completed before performing recording circuit adjustment.)
6. The adjustments should be performed for both L-CH and R-CH.

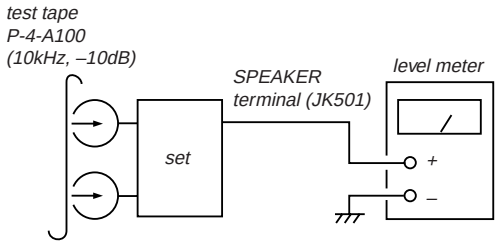
Tape	Signal	Used for
P-4-A100	10 kHz, –10 dB	Azimuth Adjustment
WS-48B	3 kHz, 0 dB	Tape Speed Adjustment

Record/Playback Head Azimuth Adjustment (Deck A, Deck B)

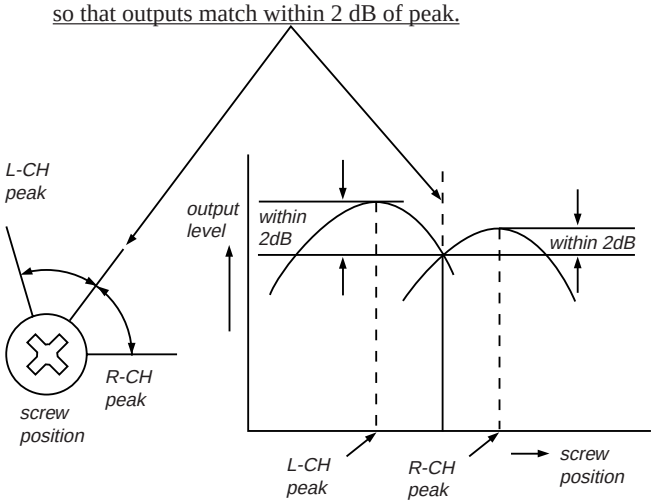
Note: Perform this adjustments for both decks.

Procedure:

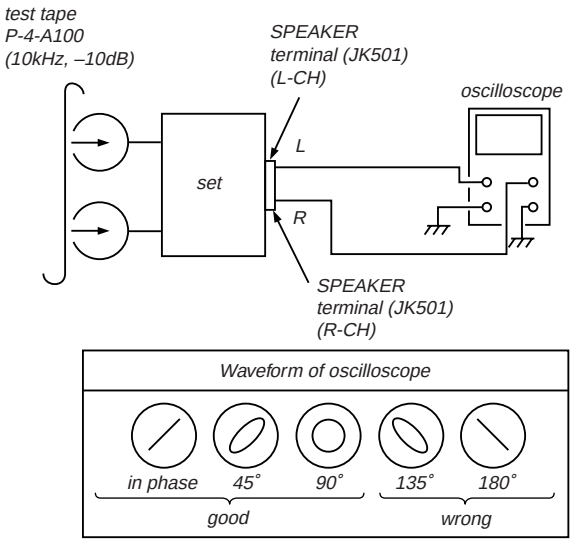
1. Mode : Playback



2. Turn the adjustment screw and check output peaks. If the peaks do not match for L-CH and R-CH, turn the adjustment screw so that outputs match within 2 dB of peak.

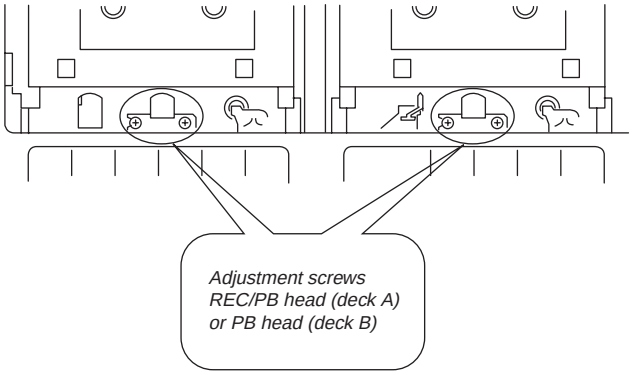


3. Mode: Playback



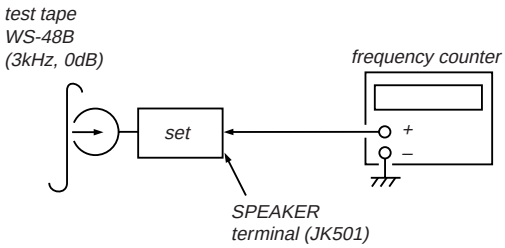
4. After the adjustments, apply suitable locking compound to the parts adjusted.

Adjustment Location:
Remove the cassette lid before adjustment (See page 8)



Tape Speed Adjustment (Deck A)

Procedure:
1. Mode: Playback

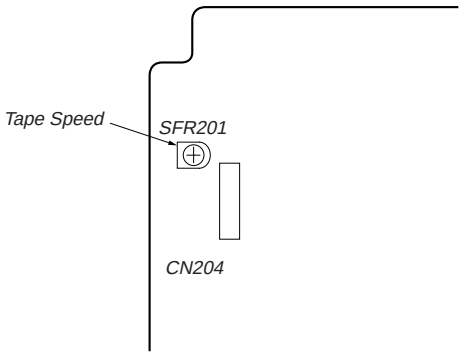


2. Adjust the SFR201 so that the frequency counter reads 3,000 Hz ± 90Hz.

Adjustment Location: MAIN board

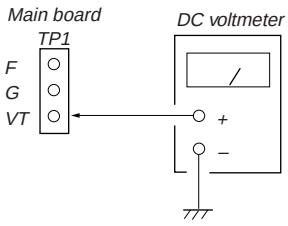
Sample Value of Wow and flutter
W. RMS (JIS) within 0.3%
(test tape: WS-48B)

[MAIN BOARD] — Component side —



TUNER SECTION | 0 dB=1μV

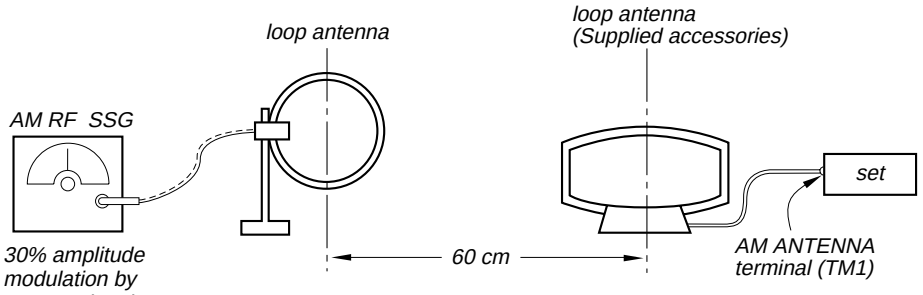
AM Tuning Voltage Adjustment



Procedure:
1. Set the reception frequency of the unit to 530 kHz.
2. Adjust L105 for 1.2 ± 0.05 V reading on the DC voltmeter.
3. Set the reception frequency of the unit to 1,710 kHz.
4. Confirm that the voltage reading on the DC voltmeter is within 8.0 ± 0.5 V.

Adjustment Location: MAIN board (See page 12)

AM Tracking Adjustment



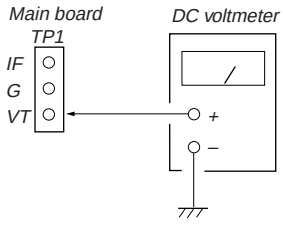
Field strength dB (μV/m) =SSG output level dB (μV/m) –26 dB.

Procedure:
1. Tune the set to 600 kHz.
2. Set the output of AM RF SSG so that the input level of the set will become 60 dB (μV/m).
3. Adjust L104 so that when the waveform on the oscilloscope is maximum, no noise appears.
4. Tune the set to 1,400 kHz.
5. Adjust TC102 so that when the waveform on the oscilloscope is maximum, no noise appears.

• Repeat the procedures in each adjustment several times, and the tracking adjustment should be finally done by the trimmer capacitors.

Adjustment Location: MAIN board (See page 12)

FM Tuning Voltage Adjustment

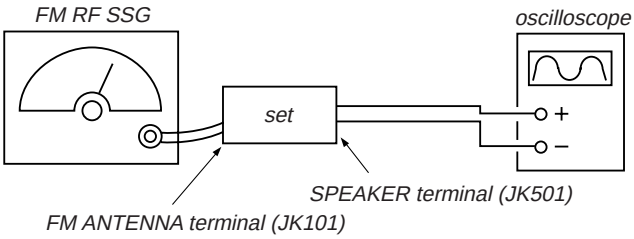


Procedure :
1. Set the reception frequency of the unit to 87.5 MHz.
2. Adjust L103 for 1.2 ± 0.05V reading on the DC voltmeter.
3. Set the reception frequency of the unit to 108 MHz.
4. Confirm that the voltage reading on the DC voltmeter is within 7.8 ± 0.5V.

Adjustment Location: MAIN board (See page 12)

FM Tracking Adjustment

Procedure:



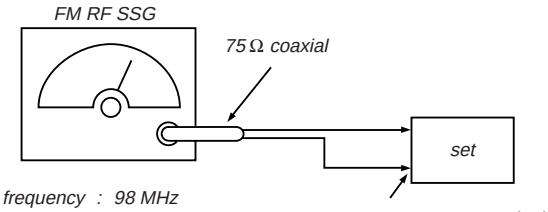
Carrier frequency : 90 MHz, 106 MHz
Modulation : AUDIO 1kHz, 75kHz deviation (100%)
Output level : 20 dB (at 75 Ω open)

1. Tune the set to 90 MHz.
2. Adjust L102 so that when the waveform on the oscilloscope is maximum, no noise appears.
3. Tune the set to 106 MHz.
4. Adjust TC101 so that when the waveform on the oscilloscope is maximum, no noise appears.

• Repeat the procedures in each adjustment several times, and the tracking adjustment should be finally done by the trimmer capacitors.

Adjustment Location: MAIN board

FM Tuned Level Adjustment



Carrier frequency : 98 MHz
Modulation : AUDIO 1 kHz, 75 kHz deviation (100%)
Output level : 28 dB (at 75 Ω open)

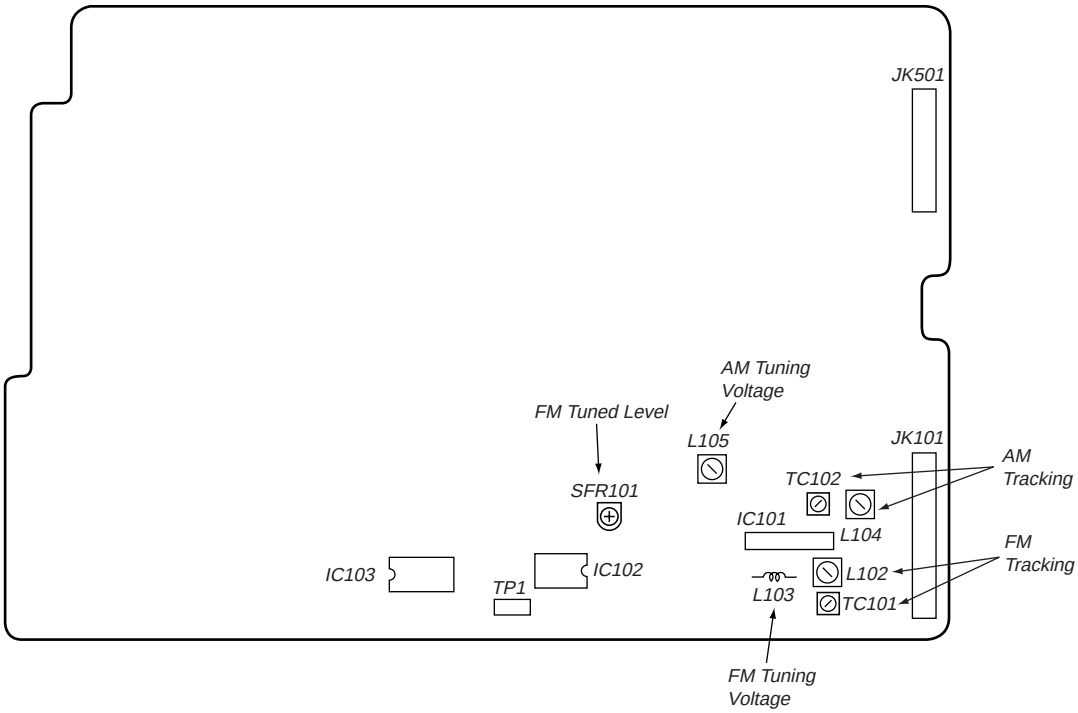
Procedure:

1. Supply a 28 dB 98 MHz signal from the ANTENNA terminal.
2. Tune the set to 98 MHz.
3. Adjust SFR101 to the point (moment) when the TUNED indicator will change from going off to going on.

Adjustment Location: MAIN board

Adjustment Location

[MAIN BOARD] — Component side —

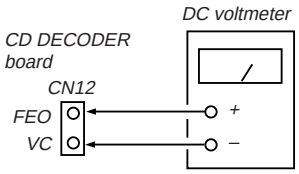


CD SECTION

Note:

1. CD Block is basically constructed to operate without adjustment. Therefore, check each item in order given.
2. Use YEDS-18 disc (3-702-101-01) unless otherwise indicated.
3. Use an oscilloscope with more than 10MΩ impedance.
4. Clean the object lens by an applicator with neutral detergent when the signal level is low than specified value with the following checks.
5. Adjust the focus bias adjustment when optical block is replaced.

Focus Bias Adjustment



Procedure:

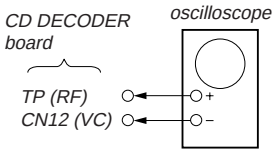
1. Connect DC voltmeter to test point CN12 (FEO), (VC) on CD DECODER board.
2. Turned Power switch on.
3. Put disc (YEDS-18) in and stop.
4. Adjust VR01 so that the DC voitmeter reading is 0 ± 20 mV.

Adjustment Location: CD DECODER board

Focus Gain Adjustment (VR02)

This gain has a margin, so even if it is slightly off.
There is no problem.
Therfore, do not perform this adjusment.
Please note that it should be fixed to mechanical center position when you moved and do not know original position.

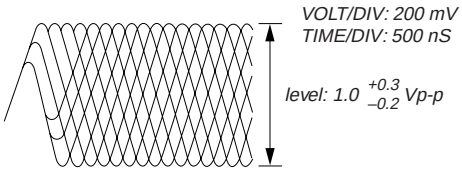
RF Level Check



Procedure :

1. Connect oscilloscope to test point TP (RF) on CD DECODER board.
2. Turned Power switch on.
3. Put disc (YEDS-18) in and playback.
4. Confirm that oscilloscope waveform is clear and check RF signal level is correct or not.

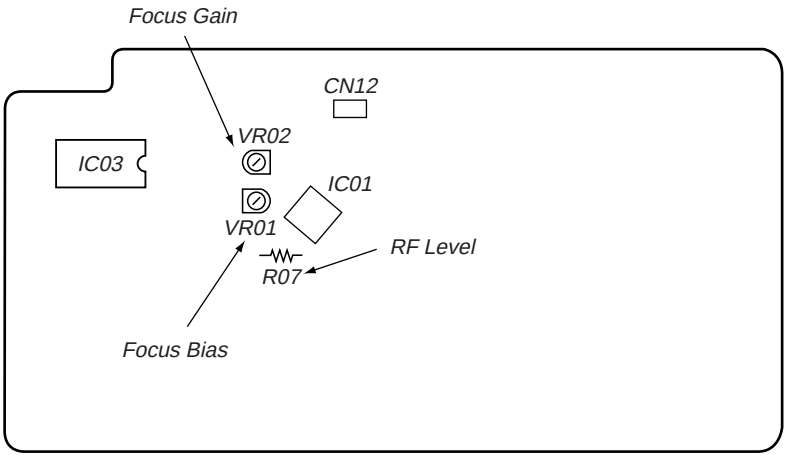
Note: Clear RF signal waveform means that the shape "◊" can be clearly distinguished at the center of the waveform.



Adjustment Location: CD DECODER board

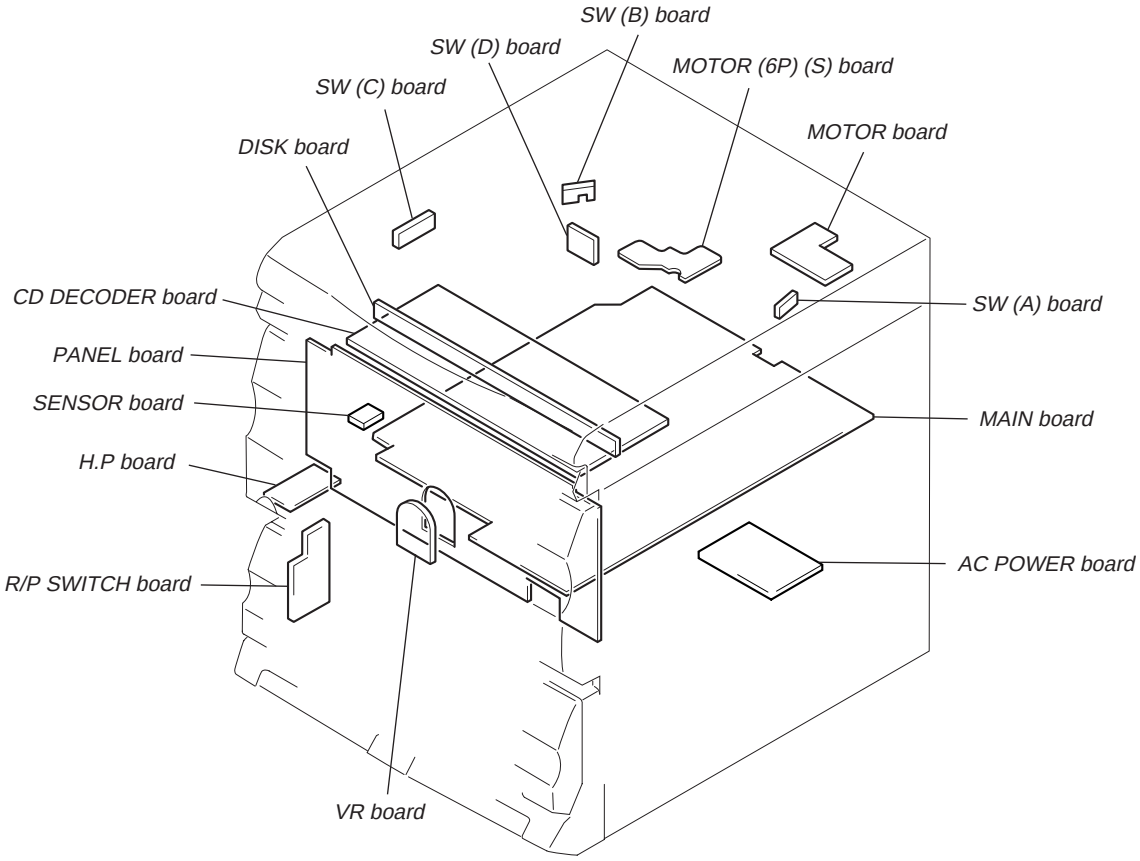
Adjustment Location

[CD DECODER BOARD] — Component side —



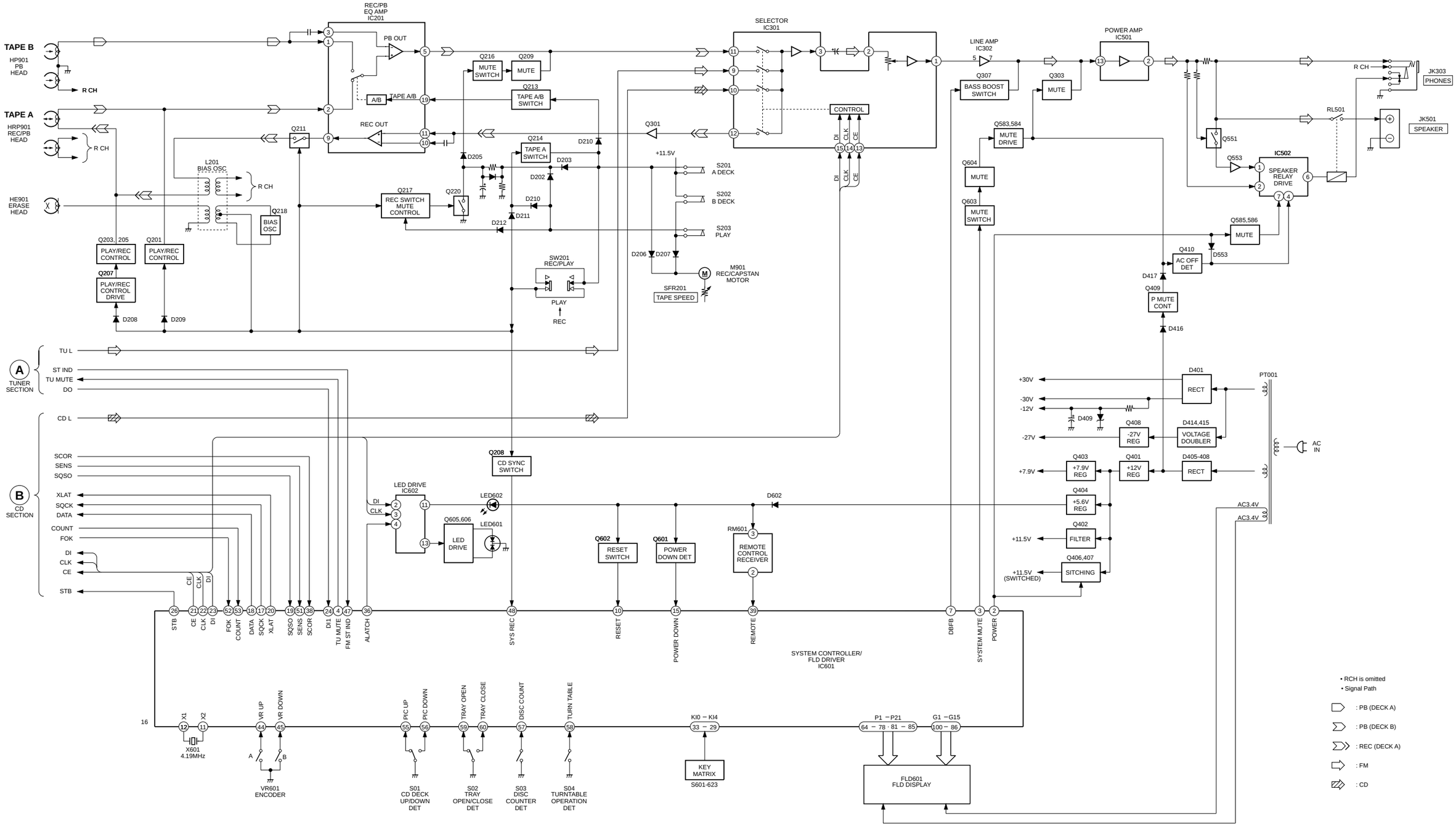
SECTION 5
DIAGRAMS

5-1. CIRCUIT BOARDS LOCATION

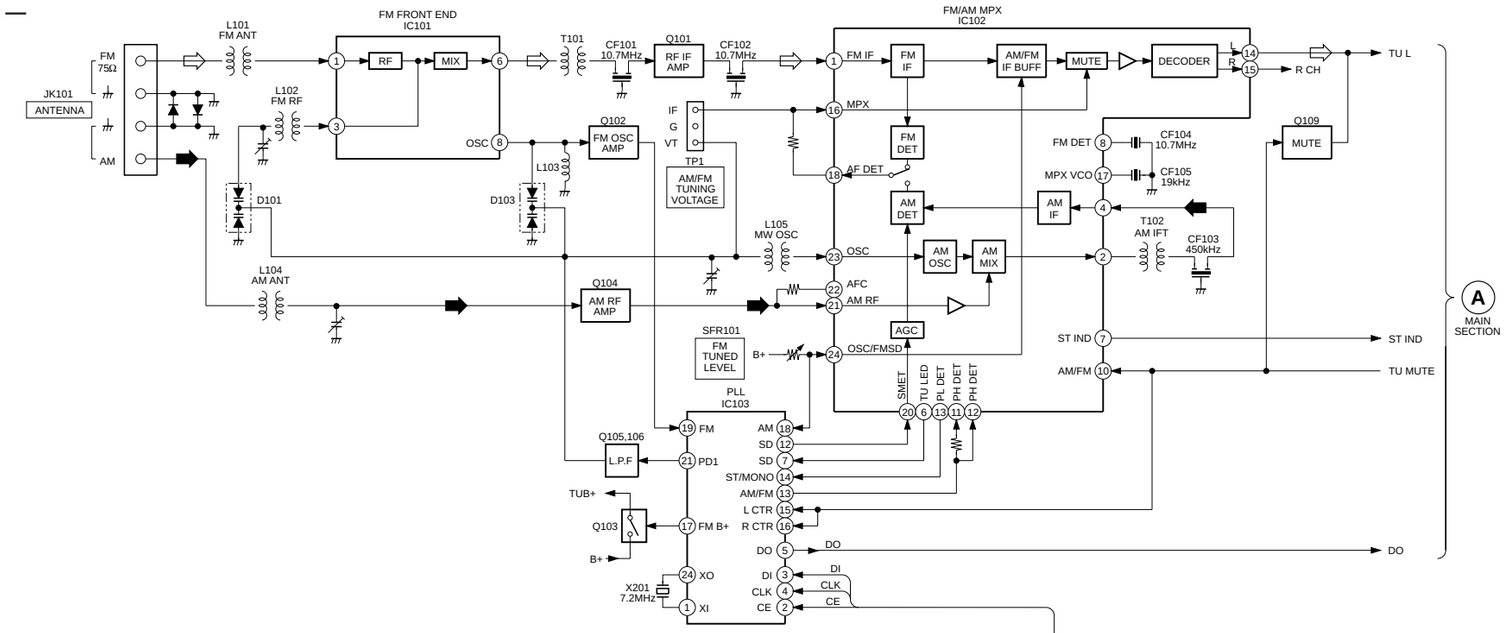


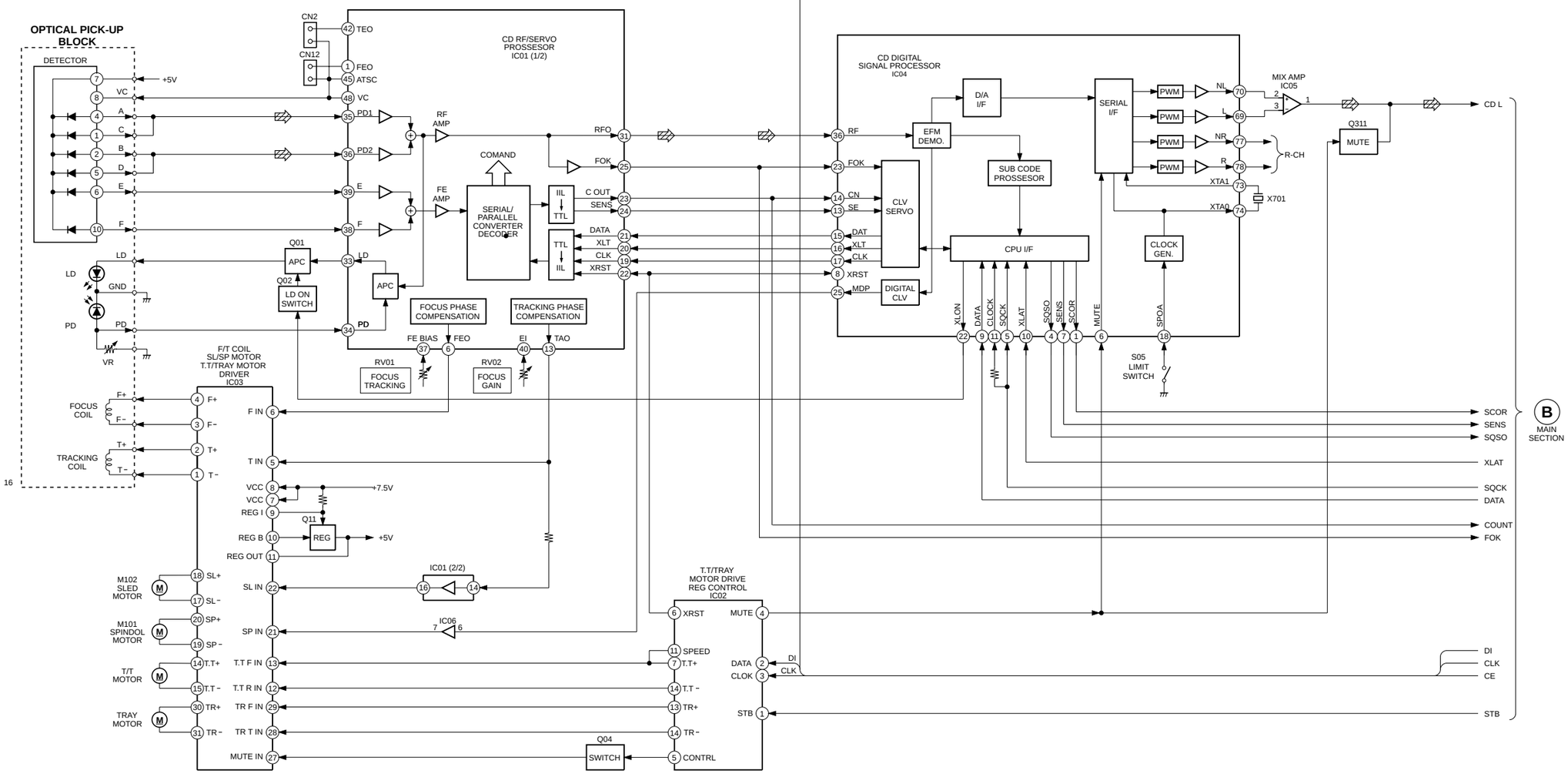
5-2. BLOCK DIAGRAMS

— DECK SECTION —



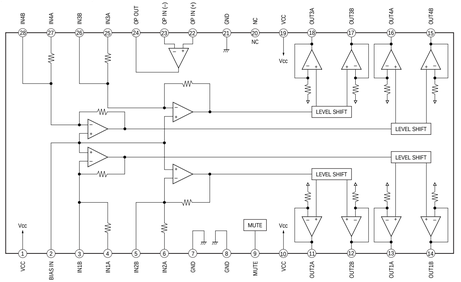
— TUNER/CD SECTION —



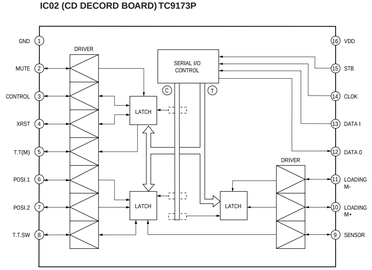


5-3. IC BLOCK DIAGRAMS

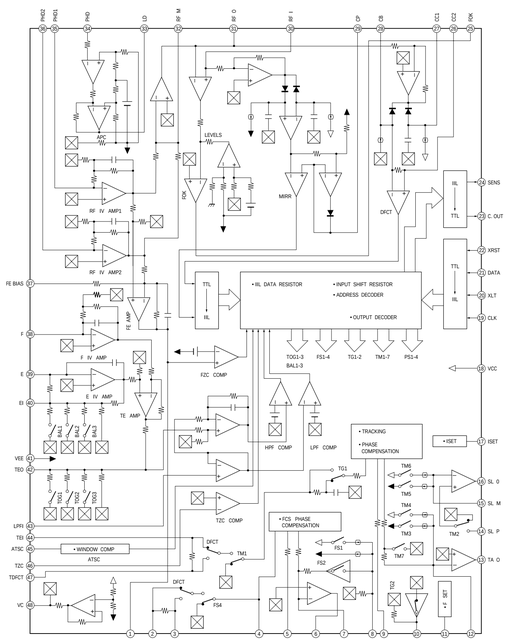
IC03 (CD DECORD BOARD) BA5941FP



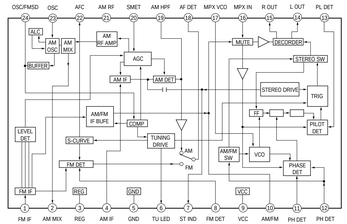
IC02 (CD DECORD BOARD) TC9173P



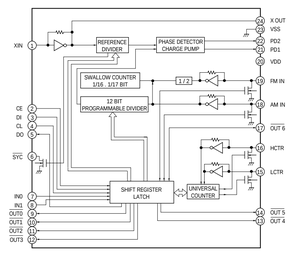
IC01 (CD DECORD BOARD) CXA1782BQ



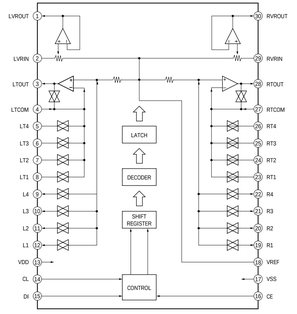
IC102 (MAIN BOARD) LA1831



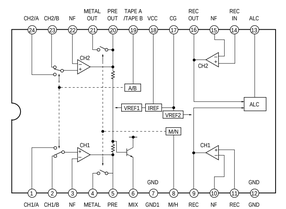
IC103 (MAIN BOARD) LC7218-ST



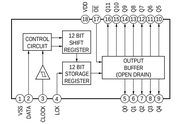
IC301 (MAIN BOARD) LC75392



IC201 (MAIN BOARD) TA8189N



IC602 (PANEL BOARD) BU2092



5-10. IC PIN FUNCTION

IC601 µPD780205GF (SYSTEM CONTROL) / PANEL BOARD

Pin No.	Pin Name	I/O	Description
1	VDD	—	VDD
2	POWER OUT	O	Power switch output. ON: H, OFF: L
3	S. MUTE OUT	O	System mute output. ON: H, OFF: L
4	TU. MUTE OUT	O	Tuner mute output. ON: H, OFF: L
5	TUNED OUT	O	Surround output. ON: H, OFF: L (Not used)
6	TAPE REC OUT	O	Function tape output. Tape: H, Others: L (Not used)
7	DBFB NORMAL	O	DBFB normal (U2: DBFB). ON: H, Others: L
8	NC	O	DBFB high. ON: H, Others: L (Not used)
9	NC	O	Not used
10	RESET	—	Reset input
11	X2	I	X'tal 4.194314 MHz
12	X1	I	X'tal 4.194314 MHz
13	VSS	—	Ground
14	NC	—	Not used (open)
15	POWER DOWN IN	I	Power down input. AC ON: H, AC OFF: L
16	VDD	—	VDD
17	SOCK	O	CXD2508A SQCK, CLOCK output
18	DATA	O	CXD2508A data output
19	SOSO	I	CXD2508A SQSO input
20	XLAT	O	CXD2508A XLAT output. Latch: L, Others: H
21	CE	O	Chip enable output to LC7218, LC75392. Data: H, Address: L
22	CLK	O	CLK output
23	DO	O	Data output
24	DI	I	Data input
25	VSS	—	Ground
26	CD STB	O	STB output to SN74HC4094. STB: L, Others: H
27	FLAT	O	Flat output. Flat: H, Others: L (Not used)
28	VSS	—	Ground
29	K4	I	Key input 4 to A/D
30	K3	I	Key input 3 to A/D
31	K2	I	Key input 2 to A/D
32	K1	I	Key input 1 to A/D
33	K0	I	Key input 0 to A/D
34	AVDD	O	VDD of A/D converter
35	AVREF	—	Reference voltage of A/D converter
36	A LATCH	O	Latch output to BU2092. Latch: H, Others: L
37	B LATCH	O	Not used
38	SCOR	I	CXD2508A SCOR
39	REMOTE IN	I	Remote signal input. ON: H, OFF: L
40	VSS	—	Ground
41	NC	O	Shift or load output to SN74HC165. Shift: H, Load: L (Not used)
42	VSS	I	Data input to SN74HC165 (Ground)
43	DECK STB	O	STB output to BU2114, SN74HC4094. STB:H, Others: L (Not used)
44	VR UP	I	VR encoder A input. ON:L, OFF: H
45	VR DOWN	I	VR encoder B input. ON:L, OFF: H
46	VDD	—	VDD
47	FM ST IN	I	FM stereo indicator input. Stereo:L, Mono: H
48	SYNC REC IN	I	Synchro record input. Record:L, Other: H
49	VSS	I	CD encoder A input. ON: L, OFF: H (Ground)
50	VSS	I	CD encoder B input. ON: L, OFF: H (Ground)

Pin No.	Pin Name	I/O	Description
51	SENS	I	Input from CXD2508A SENS
52	FOK	I	Input from CXD2508A FOK. OK: H, Others: L
53	COUNT	I	Input from CXD2508A COUNT
54	VSS	—	Ground
55	PIC UP	I	Input from CD mechanism pick up switch. Up: L, Others: H
56	PIC DOWN	I	Input from CD mechanism pick down switch. Down: L, Others: H
57	DISC COUNT SW	I	Input from CD mechanism disc count switch. Count: L, Others: H
58	TURN TABLE SW	I	Input from CD mechanism turn table switch. ON: L, OFF: H
59	TRAY OPEN SW	I	Input from CD mechanism tray open switch. Open: L, Others: H
60	TRAY CLOSE SW	I	Input from CD mechanism tray close switch. Open: L, Others: H
61	VSS	I	AMS signal input. During program: H, Interval between programs: L
62	SERI MUTE (TUNER)	O	Serial mute (tuner) output (Not used)
63	MODE SW IN	I	Input from destination select mode switch. ON: H, OFF: L
64	P1	O	FLD segment signal output P1. ON: H, OFF: L
65	P2	O	FLD segment signal output P2. ON: H, OFF: L
66	P3	O	FLD segment signal output P3. ON: H, OFF: L
67	P4	O	FLD segment signal output P4. ON: H, OFF: L
68	P5	O	FLD segment signal output P5. ON: H, OFF: L
69	P6	O	FLD segment signal output P6. ON: H, OFF: L
70	P7	O	FLD segment signal output P7. ON: H, OFF: L
71	P8	O	FLD segment signal output P8. ON: H, OFF: L
72	P9	O	FLD segment signal output P9. ON: H, OFF: L
73	P10	O	FLD segment signal output P10. ON: H, OFF: L
74	P11	O	FLD segment signal output P11. ON: H, OFF: L
75	P12	O	FLD segment signal output P12. ON: H, OFF: L
76	P13	O	FLD segment signal output P13. ON: H, OFF: L
77	P14	O	FLD segment signal output P14. ON: H, OFF: L
78	P15	O	FLD segment signal output P15. ON: H, OFF: L
79	–V LOAD	—	(–) negative power supply
80	P16	O	FLD segment signal output P16. ON: H, OFF: L
81	P17	O	FLD segment signal output P17. ON: H, OFF: L
82	P18	O	FLD segment signal output P18. ON: H, OFF: L
83	P19	O	FLD segment signal output P19. ON: H, OFF: L
84	P20	O	FLD segment signal output P20. ON: H, OFF: L
85	P21	O	FLD segment signal output P21. ON: H, OFF: L
86	G15	O	FLD grid signal output 15. ON: H, OFF: L
87	G14	O	FLD grid signal output 14. ON: H, OFF: L
88	G13	O	FLD grid signal output 13. ON: H, OFF: L
89	G12	O	FLD grid signal output 12. ON: H, OFF: L
90	G11	O	FLD grid signal output 11. ON: H, OFF: L
91	G10	O	FLD grid signal output 10. ON: H, OFF: L
92	G9	O	FLD grid signal output 9. ON: H, OFF: L
93	G8	O	FLD grid signal output 8. ON: H, OFF: L
94	G7	O	FLD grid signal output 7. ON: H, OFF: L
95	G6	O	FLD grid signal output 6. ON: H, OFF: L
96	G5	O	FLD grid signal output 5. ON: H, OFF: L
97	G4	O	FLD grid signal output 4. ON: H, OFF: L
98	G3	O	FLD grid signal output 3. ON: H, OFF: L
99	G2	O	FLD grid signal output 2. ON: H, OFF: L
100	G1	O	FLD grid signal output 1. ON: H, OFF: L

SECTION 6
EXPLODED VIEWS

NOTE:

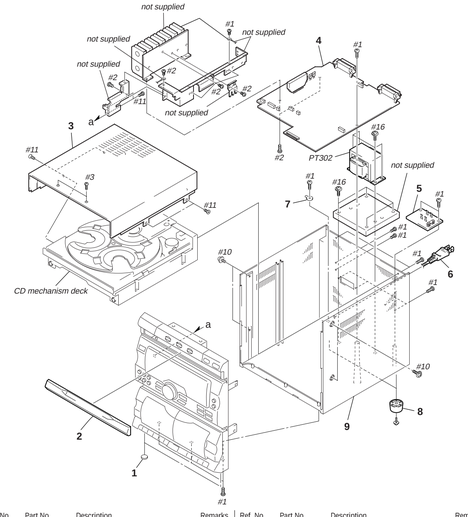
- -XX, -X mean standardized parts, so they may have some differences from the original one.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- Abbreviation
  CND : Canadian AUS : Australian
  MX : Mexican SAF : South African
- The mechanical parts with no reference number in the exploded views are not supplied.
- Hardware (# mark) list and accessories and packing materials are given in the last of this parts list.

When indicating parts by reference number, please include the board name.

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

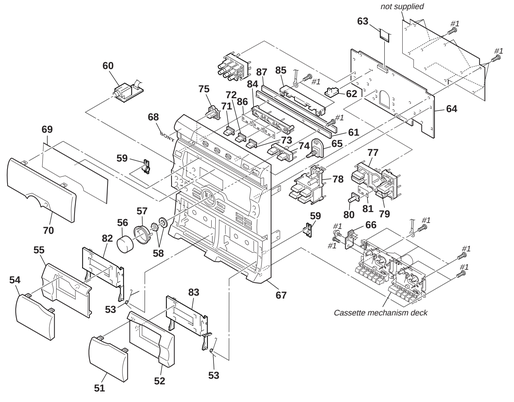
Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

6-1. CABINET SECTION



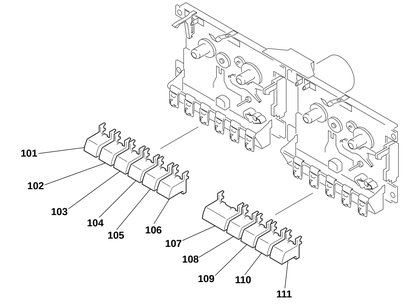
Ref. No.	Part No.	Description	Remarks
1	4-210-302-01	RUBBER, FOOT	
2	4-210-292-01	DOOR, CD	
3	4-210-297-01	CABINET	
* 4	A-4405-471-A	MAIN BOARD, COMPLETE	
* 5	1-670-391-11	AC POWER BOARD	
⚠6	1-559-583-11	CORD, POWER (US, CND)	
⚠6	1-551-506-99	CORD, POWER (MX, SAF)	
⚠6	1-696-966-11	CORD, POWER (AUS)	
7	4-210-299-01	WASHER, AC CORD	
8	4-210-301-01	FOOT (B)	
* 9	4-210-298-01	CHASSIS	
⚠PT302	1-431-939-11	TRANSFORMER, POWER (US, CND)	
⚠PT302	1-431-961-11	TRANSFORMER, POWER (MX, SAF)	
⚠PT302	1-431-962-11	TRANSFORMER, POWER (AUS)	

6-2. FRONT PANEL SECTION



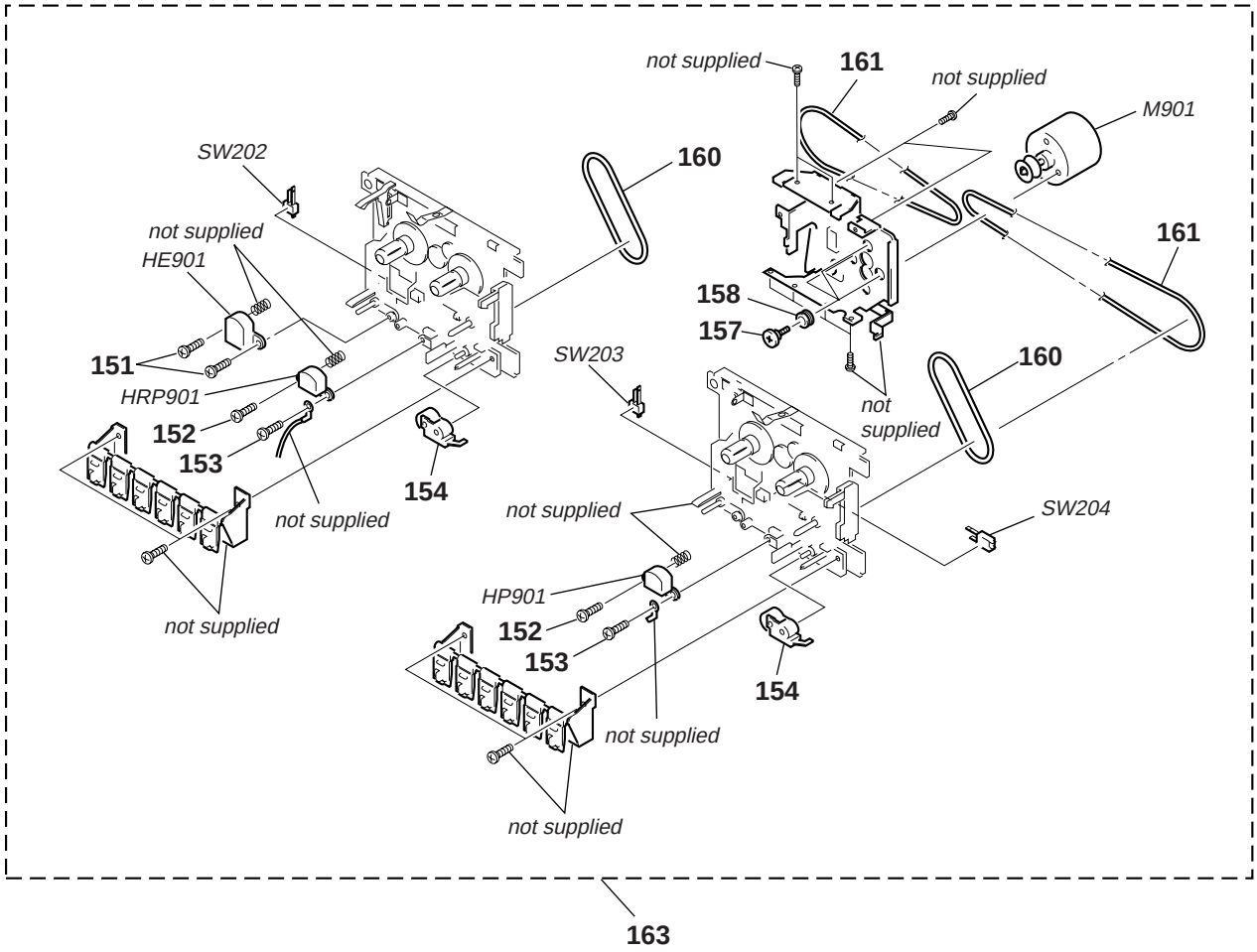
Ref. No.	Part No.	Description	Remarks
51	4-210-296-01	WINDOW (R), DOOR	
52	4-210-294-01	LID (R), CASSETTE	
53	4-210-326-01	SPRING, DOOR	
54	4-210-295-01	WINDOW (L), DOOR	
55	4-210-293-01	LID (L), CASSETTE	
56	4-210-319-01	KNOB, VOLUME	
57	4-210-300-01	RING, VOLUME	
58	4-210-304-01	WASHER, VR	
59	4-992-131-01	DAMPER (GRY), GEAR	
* 60	1-670-392-11	H.P BOARD	
* 61	1-670-387-11	DISK BOARD	
* 62	1-670-388-11	SENSOR BOARD	
63	1-773-077-11	WIRE (FLAT TYPE) (18 CORE)	
* 64	A-4414-553-A	PANEL BOARD, COMPLETE	
* 65	1-670-389-11	VR BOARD	
* 66	1-666-444-11	R/P SWITCH BOARD	
67	4-210-307-01	PANEL, FRONT	
68	4-962-708-01	EMBLEM (4-A), SONY	
69	4-210-308-01	OVERAY, DISPLAY	
70	4-210-309-01	WINDOW, DISPLAY	
71	4-210-310-01	LENS (A), CD BUTTON	
72	4-210-311-01	LENS (B), CD BUTTON	
73	4-210-312-01	LENS (C), CD BUTTON	
74	4-210-313-01	BUTTON (B), CD	
75	4-210-314-01	BUTTON, POWER	
76	4-210-315-01	BUTTON, CLOCK	
77	4-210-316-01	BUTTON, FUNCTION	
78	4-210-317-01	BUTTON, TUNER	
79	4-210-318-01	LENS, PLAY	
80	4-210-320-01	LENS, BUTTON	
81	4-210-321-01	OVERAY, BUTTON	
82	4-210-322-01	HOLDER (L), DOOR	
83	4-210-323-01	HOLDER (R), DOOR	
84	4-210-324-01	HOLDER, CD BUTTON	
85	4-210-327-01	BRACKET, TOP CABINET	
86	4-210-329-01	FILM, BUTTON LENS	
87	4-210-330-01	PLATE, PVC	

6-3. CASSETTE BUTTON SECTION



Ref. No.	Part No.	Description	Remarks
101	4-210-336-01	BUTTON (L), REC	
102	4-210-337-01	BUTTON (L), PLAY	
103	4-210-338-01	BUTTON (L), REW	
104	4-210-339-01	BUTTON (L), FF	
105	4-210-340-01	BUTTON (L), S/E	
106	4-210-341-01	BUTTON (L), PAUSE	
107	4-210-342-01	BUTTON (R), PLAY	
108	4-210-343-01	BUTTON (R), REW	
109	4-210-344-01	BUTTON (R), FF	
110	4-210-345-01	BUTTON (R), S/E	
111	4-210-346-01	BUTTON (R), PAUSE	

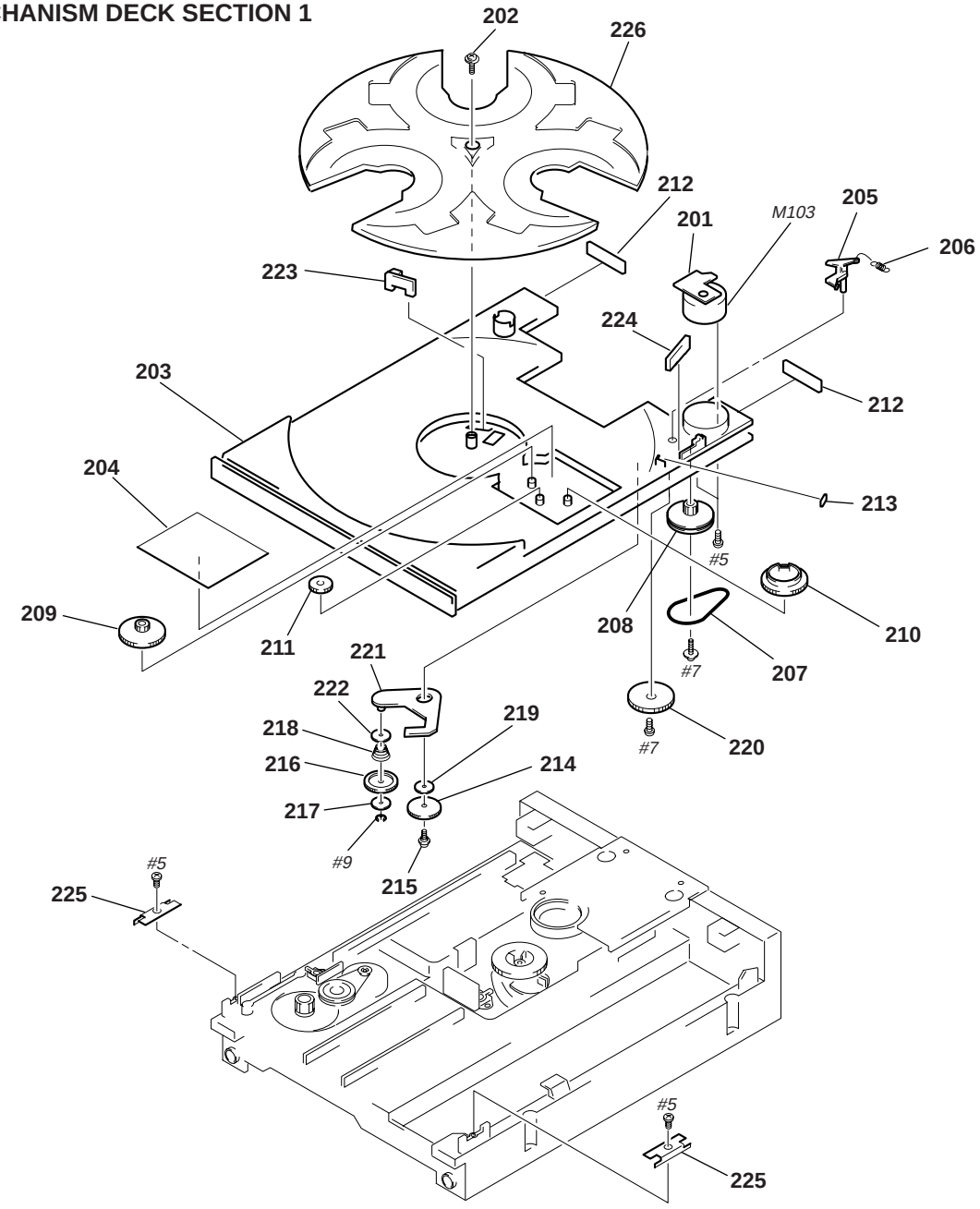
6-4. CASSETTE MECHANISM DECK SECTION



Ref. No.	Part No.	Description	Remarks
151	9-980-286-01	CAP SCREW 2 × 7.5	
152	9-980-288-01	A SCREW 2 × 7 (AZIMUTH)	
153	9-980-287-01	B SCREW 2 × 3	
154	9-980-276-01	PINCH ROLLER ARM ASSY	
157	9-980-279-01	SCREW M COLLAR	
158	9-980-278-01	MOTOR RUBBER	
160	9-980-277-01	BELT (W) F	
161	9-980-281-01	BELT M	

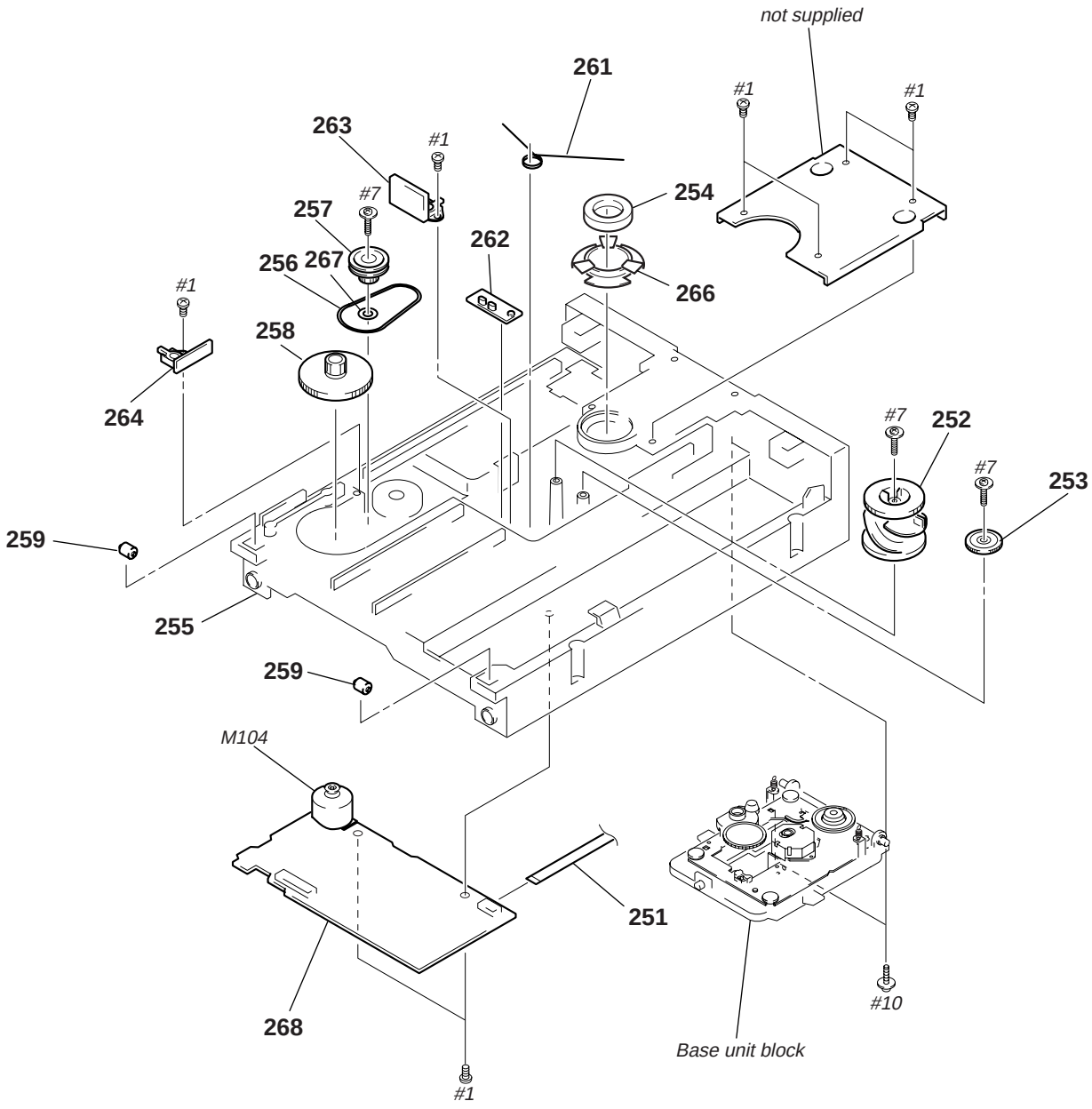
Ref. No.	Part No.	Description	Remarks
* 163	1-759-417-11	DECK, MECHANICAL	
HE901	9-980-284-01	E HEAD (ERASE)	
HP901	9-980-282-01	P HEAD (PLAY)	
HRP901	9-980-283-01	RP HEAD (REC/PLAY)	
M901	9-980-285-01	MOTOR (CAPSTAN/REEL)	
SW202	9-980-274-01	LEAF SWITCH (A DECK)	
SW203	9-980-274-01	LEAF SWITCH (B DECK)	
SW204	9-980-275-01	LEAF SWITCH (PLAY)	

6-5. CD MECHANISM DECK SECTION 1



Ref. No.	Part No.	Description	Remarks
* 201	1-670-801-11	MOTOR BOARD	
202	3-669-480-11	+ PTPWH 2	
203	4-992-168-01	TRAY, CHANGER BASE	
204	4-992-180-01	PLATE, BLIND	
205	4-992-181-01	LEVER, SENSOR (SW)	
206	4-992-182-01	SPRING, SENSOR (SW) LEVER	
207	4-992-170-01	BELT, LOADING	
208	4-992-171-01	PULLEY, GEAR	
209	4-992-179-01	GEAR, TR	
210	4-992-177-01	GEAR, TR LOCK	
211	4-992-178-01	GEAR (C), RELAY	
212	4-992-187-01	CUSHION	
213	4-992-186-01	CUSHION, SW LEVER	
214	4-992-173-01	GEAR (B), RELAY	
215	4-992-183-01	SCREW, RELAY GEAR (B)	
216	4-992-174-01	GEAR, CHANGE	
217	4-992-184-01	WASHER, CHANGE GEAR	
218	4-992-176-01	SPRING, CHANGE GEAR	
219	4-992-185-01	WASHER, CHANGE PLATE	
220	4-992-172-01	GEAR (A), RELAY	
* 221	4-993-032-01	PLATE, CHANGE	
222	4-993-033-01	WASHER, POLY ETHYLENE	
* 223	1-670-798-11	SW (B) BOARD	
* 224	1-670-797-11	SW (A) BOARD	
* 225	4-993-034-01	GUIDE, RAIL	
226	4-993-140-01	TURN TABLE	
M103	X-4948-765-1	MOTOR ASSY (TURN TABLE)	

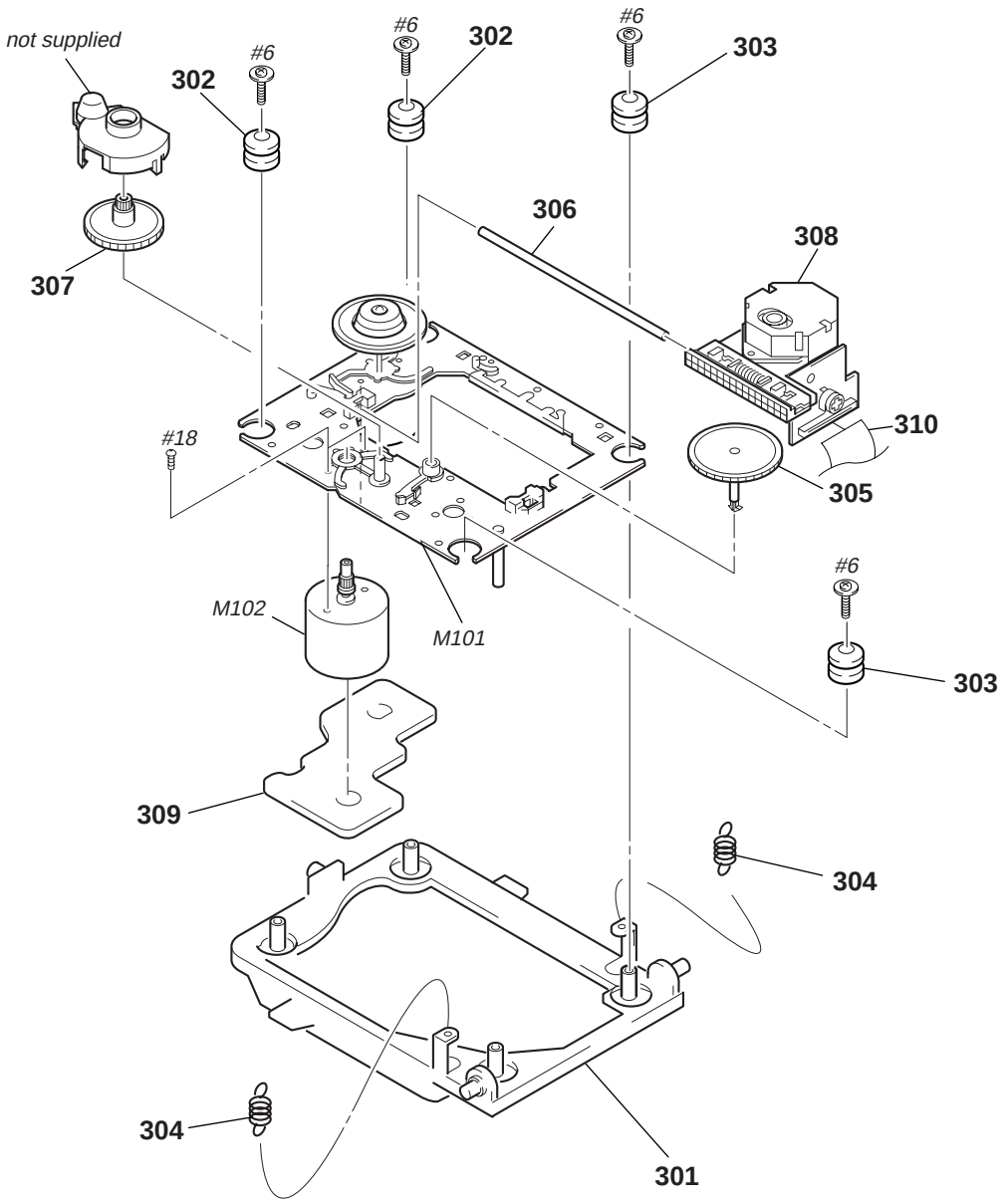
6-6. CD MECHANISM DECK SECTION 2



Ref. No.	Part No.	Description	Remarks
251	1-769-856-11	WIRE (FLAT TYPE) (5 CORE)	
252	4-992-190-01	UD-CAM	
253	4-992-191-01	UD-GEAR	
254	4-992-195-01	MAGNET	
* 255	4-992-196-01	CHASSIS, MAIN	
256	4-992-197-01	BELT, LOADING GEAR	
257	4-992-198-01	PULLEY (B), GEAR	
258	4-992-199-01	GEAR, SLIDE	
259	4-992-200-01	ROLLER	

Ref. No.	Part No.	Description	Remarks
261	4-992-192-01	SPRING, BRAKE CAM	
262	4-992-193-01	LEVER, SW	
* 263	1-670-800-11	SW (D) BOARD	
* 264	1-670-799-11	SW (C) BOARD	
266	4-992-194-01	CLAMP	
267	4-992-201-01	WASHER, POLYETHYLENE	
* 268	A-4414-924-A	CD DECODER BOARD, COMPLETE	
M104	X-4948-766-1	MOTOR ASSY (A) (TRAY)	

6-7. BASE UNIT SECTION (KSM-213BCM)



Ref. No.	Part No.	Description	Remarks
301	4-992-164-01	BASE, KSM MECHANICAL	
302	4-992-165-01	DAMPER (GREEN)	
303	4-992-166-01	DAMPER (RED)	
304	4-992-167-01	SPRING, MECHANICAL BASE	
305	2-626-907-01	GEAR (A) (S)	
306	2-626-908-01	SHAFT, SLED	
307	2-627-003-02	GEAR (B)	
⚠308	8-848-379-31	OPTICAL PICK-UP KSS-213B/S-N	
* 309	1-639-678-12	MOTOR (6P)(S) BOARD	
310	1-783-740-11	WIRE (FLAT TYPE) (16 CORE)	
M101	X-2625-877-1	MOTOR ASSY (SPINDLE)	
M102	X-2625-769-1	MOTOR ASSY (SLED)	

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

SECTION 7
ELECTRICAL PARTS LIST

AC POWER

CD DECODER

NOTE:

When indicating parts by reference number, please include the board name.

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.

Les composants identifiés par une marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une pièce portant le numéro spécifié.

- Abbreviation
  CND : Canadian AUS : Australian
  MX : Mexican SAF : South African
- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX, -X mean standardized parts, so they may have some difference from the original one.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- CAPACITORS:
  uF: µF
- RESISTORS
  All resistors are in ohms.
  METAL: metal-film resistor
  METAL OXIDE: Metal Oxide-film resistor
  F: nonflammable
- COILS
  uH: µH
- SEMICONDUCTORS
  In each case, u: µ, for example:
  uA...: µA... , uPA... , µPA... ,
  uPB... , µPB... , uPC... , µPC... ,
  uPD..., µPD...

Ref. No.	Part No.	Description			Remarks
*	1-670-391-11	AC POWER BOARD			
		**********			
*	1-533-213-31	HOLDER, FUSE			
		< FUSE >			
⚠F001	1-576-106-11	FUSE 250V/3A			
		< RESISTOR >			
⚠R001	1-202-727-00	CARBON 4.7M	5%	1/3W	
**********					
*	A-4414-924-A	CD DECODER BOARD, COMPLETE			
		**********			
		< CAPACITOR >			
C02	1-126-963-11	ELECT	4.7uF	20%	50V
C03	1-126-933-11	ELECT	100uF	20%	10V
C04	1-162-306-11	CERAMIC	0.01uF	20%	16V
C04A	1-164-159-11	CERAMIC	0.1uF		50V
C05	1-136-159-00	FILM	0.033uF	5%	50V
C06	1-162-306-11	CERAMIC	0.01uF	20%	16V
C07	1-136-159-00	FILM	0.033uF	5%	50V
C07A	1-162-199-31	CERAMIC	10PF	5%	50V
C08	1-161-494-00	CERAMIC	0.022uF		25V
C09	1-126-959-11	ELECT	0.47uF	20%	50V
C10	1-162-306-11	CERAMIC	0.01uF	20%	16V
C11	1-126-933-11	ELECT	100uF	20%	10V
C11A	1-164-159-11	CERAMIC	0.1uF		50V
C12	1-162-306-11	CERAMIC	0.01uF	20%	16V
C13	1-164-159-11	CERAMIC	0.1uF		50V
C14	1-162-302-11	CERAMIC	0.0022uF	30%	16V
C15	1-164-159-11	CERAMIC	0.1uF		50V
C16	1-136-159-00	FILM	0.033uF	5%	50V
C17	1-136-165-00	FILM	0.1uF	5%	50V
C18	1-164-159-11	CERAMIC	0.1uF		50V
C19	1-126-963-11	ELECT	4.7uF	20%	50V
C20	1-162-306-11	CERAMIC	0.01uF	20%	16V
C21	1-136-157-00	FILM	0.022uF	5%	50V
C22	1-126-933-11	ELECT	100uF	20%	10V
C23	1-164-159-11	CERAMIC	0.1uF		50V
C24	1-126-965-11	ELECT	22uF	20%	50V
C25	1-126-960-11	ELECT	1uF	20%	50V
C26	1-161-494-00	CERAMIC	0.022uF		25V
C27	1-162-306-11	CERAMIC	0.01uF	20%	16V
C28	1-164-159-11	CERAMIC	0.1uF		50V

Ref. No.	Part No.	Description			Remarks
C30	1-126-933-11	ELECT	100uF	20%	10V
C30A	1-164-159-11	CERAMIC	0.1uF		50V
C31	1-162-600-11	CERAMIC	0.0047uF	30%	16V
C32	1-162-301-11	CERAMIC	0.0015uF	30%	16V
C33	1-162-306-11	CERAMIC	0.01uF	20%	16V
C34	1-162-286-31	CERAMIC	220PF	10%	50V
C35	1-162-306-11	CERAMIC	0.01uF	20%	16V
C36	1-126-963-11	ELECT	4.7uF	20%	50V
C37	1-164-159-11	CERAMIC	0.1uF		50V
C37A	1-126-925-11	ELECT	470uF	20%	10V
C38	1-102-958-00	CERAMIC	20PF	5%	50V
C39	1-102-958-00	CERAMIC	20PF	5%	50V
C41A	1-162-294-31	CERAMIC	0.001uF	10%	50V
C42A	1-162-294-31	CERAMIC	0.001uF	10%	50V
C44A	1-162-294-31	CERAMIC	0.001uF	10%	50V
C45	1-126-934-11	ELECT	220uF	20%	10V
C46	1-126-933-11	ELECT	100uF	20%	10V
C51	1-162-288-31	CERAMIC	330PF	10%	50V
C51A	1-126-959-11	ELECT	0.47uF	20%	50V
C52	1-162-288-31	CERAMIC	330PF	10%	50V
C53	1-162-284-31	CERAMIC	150PF	10%	50V
C54	1-162-284-31	CERAMIC	150PF	10%	50V
C55	1-162-284-31	CERAMIC	150PF	10%	50V
C56	1-162-284-31	CERAMIC	150PF	10%	50V
C57	1-126-961-11	ELECT	2.2uF	20%	50V
C58	1-126-961-11	ELECT	2.2uF	20%	50V
C59	1-162-294-31	CERAMIC	0.001uF	10%	50V
C60	1-162-294-31	CERAMIC	0.001uF	10%	50V
C81	1-164-159-11	CERAMIC	0.1uF		50V
C83	1-164-159-11	CERAMIC	0.1uF		50V
C84	1-162-282-31	CERAMIC	100PF	10%	50V
C85	1-162-292-31	CERAMIC	680PF	10%	50V
C86	1-162-282-31	CERAMIC	100PF	10%	50V
C86A	1-161-494-00	CERAMIC	0.022uF		25V
C87	1-162-282-31	CERAMIC	100PF	10%	50V
C88	1-162-282-31	CERAMIC	100PF	10%	50V
C90	1-161-494-00	CERAMIC	0.022uF		25V
C90A	1-164-159-11	CERAMIC	0.1uF		50V
C98	1-161-494-00	CERAMIC	0.022uF		25V
		< CONNECTOR >			
CN01	1-580-475-11	SOCKET, CONNECTOR 16P			
CN05	1-564-721-11	PIN, CONNECTOR (SMALL TYPE) 5P			
CN06	1-695-366-21	PIN, CONNECTOR (PC BOARD) 5P			
CN09	1-770-528-31	PIN, CONNECTOR (PC BOARD) 21P			

CD DECODER

Ref. No.	Part No.	Description				Remarks
		< DIODE >				
D01	8-719-911-19	DIODE 1SS119-25				
D04	8-719-921-41	DIODE 1SS133T				
D04A	8-719-991-33	DIODE 1SS176				
		< IC >				
IC01	8-752-069-56	IC CXA1782BQ				
IC02	8-759-388-27	IC TC9173P				
IC03	8-759-429-31	IC BA5941FP				
IC04	8-752-373-06	IC CXD2508AQ				
IC05	8-759-505-55	IC NJM4558L				
IC06	8-759-505-55	IC NJM4558L				
		< COIL >				
L01	1-410-509-11	INDUCTOR 10uH				
		< TRANSISTOR >				
Q01	8-729-195-23	TRANSISTOR 2SA952				
Q02	8-729-195-23	TRANSISTOR 2SA952				
Q04	8-729-194-57	TRANSISTOR 2SC945-P				
Q11	8-729-195-23	TRANSISTOR 2SA952				
		< RESISTOR >				
R01	1-249-459-11	CARBON	12K	5%	1/4W	
R02	1-249-430-11	CARBON	12K	5%	1/4W	
R03	1-249-397-11	CARBON	22	5%	1/4W	F
R04A	1-249-409-11	CARBON	220	5%	1/4W	
R05	1-247-863-11	CARBON	22K	5%	1/4W	
R06	1-247-847-11	CARBON	4.7K	5%	1/4W	
R07	1-249-430-11	CARBON	12K	5%	1/4W	
R07A	1-249-430-11	CARBON	12K	5%	1/4W	
R07B	1-249-430-11	CARBON	12K	5%	1/4W	
R08	1-249-460-11	CARBON	15K	5%	1/4W	
R09	1-249-460-11	CARBON	15K	5%	1/4W	
R09A	1-247-847-11	CARBON	4.7K	5%	1/4W	
R10	1-247-718-11	CARBON	2.7K	5%	1/4W	F
R11	1-249-438-11	CARBON	56K	5%	1/4W	
R12	1-247-879-11	CARBON	100K	5%	1/4W	
R13	1-247-896-11	CARBON	510K	5%	1/4W	
R13A	1-247-861-11	CARBON	18K	5%	1/4W	
R14	1-247-879-11	CARBON	100K	5%	1/4W	
R14A	1-247-861-11	CARBON	18K	5%	1/4W	
R15	1-247-881-00	CARBON	120K	5%	1/4W	
R16	1-247-887-00	CARBON	220K	5%	1/4W	
R17	1-247-879-11	CARBON	100K	5%	1/4W	
R18	1-249-428-11	CARBON	8.2K	5%	1/4W	F
R19	1-249-431-11	CARBON	15K	5%	1/4W	
R21	1-247-863-11	CARBON	22K	5%	1/4W	
R22	1-247-879-11	CARBON	100K	5%	1/4W	
R23	1-249-430-11	CARBON	12K	5%	1/4W	
R24	1-247-883-00	CARBON	150K	5%	1/4W	
R25	1-247-879-11	CARBON	100K	5%	1/4W	
R26	1-247-855-11	CARBON	10K	5%	1/4W	
R27	1-249-430-11	CARBON	12K	5%	1/4W	
R28	1-247-855-11	CARBON	10K	5%	1/4W	
R29	1-247-843-11	CARBON	3.3K	5%	1/4W	
R30	1-247-843-11	CARBON	3.3K	5%	1/4W	
R31	1-247-855-11	CARBON	10K	5%	1/4W	

Ref. No.	Part No.	Description				Remarks
R32	1-247-903-00	CARBON	1M	5%	1/4W	
R33	1-247-855-11	CARBON	10K	5%	1/4W	
R34	1-247-879-11	CARBON	100K	5%	1/4W	
R35	1-247-847-11	CARBON	4.7K	5%	1/4W	
R36	1-247-847-11	CARBON	4.7K	5%	1/4W	
R37	1-247-807-11	CARBON	100	5%	1/4W	
R38	1-247-807-11	CARBON	100	5%	1/4W	
R39	1-247-847-11	CARBON	4.7K	5%	1/4W	
R41	1-247-807-11	CARBON	100	5%	1/4W	
R42	1-247-807-11	CARBON	100	5%	1/4W	
R44	1-247-807-11	CARBON	100	5%	1/4W	
R50	1-247-847-11	CARBON	4.7K	5%	1/4W	
R52	1-247-721-11	CARBON	4.7K	5%	1/4W	F
R53	1-249-411-11	CARBON	330	5%	1/4W	
R56	1-247-847-11	CARBON	4.7K	5%	1/4W	
R57	1-249-427-11	CARBON	6.8K	5%	1/4W	F
R58	1-249-442-11	CARBON	510	5%	1/4W	
R59	1-247-903-00	CARBON	1M	5%	1/4W	
R61	1-247-855-11	CARBON	10K	5%	1/4W	
R62	1-247-855-11	CARBON	10K	5%	1/4W	
R63	1-247-855-11	CARBON	10K	5%	1/4W	
R64	1-247-855-11	CARBON	10K	5%	1/4W	
R65	1-247-864-11	CARBON	24K	5%	1/4W	
R66	1-247-864-11	CARBON	24K	5%	1/4W	
R67	1-247-864-11	CARBON	24K	5%	1/4W	
R68	1-247-864-11	CARBON	24K	5%	1/4W	
R69	1-249-430-11	CARBON	12K	5%	1/4W	
R70	1-249-430-11	CARBON	12K	5%	1/4W	
R71	1-249-430-11	CARBON	12K	5%	1/4W	
R72	1-249-430-11	CARBON	12K	5%	1/4W	
R73	1-247-839-11	CARBON	2.2K	5%	1/4W	
R74	1-247-839-11	CARBON	2.2K	5%	1/4W	
R75	1-247-847-11	CARBON	4.7K	5%	1/4W	
R76	1-247-847-11	CARBON	4.7K	5%	1/4W	
R79	1-249-405-11	CARBON	100	5%	1/4W	F
R80	1-247-883-00	CARBON	150K	5%	1/4W	
R81	1-247-807-11	CARBON	100	5%	1/4W	
R82	1-247-807-11	CARBON	100	5%	1/4W	
R83	1-249-469-11	CARBON	100K	5%	1/4W	
R84	1-249-465-11	CARBON	47K	5%	1/4W	
R85	1-249-465-11	CARBON	47K	5%	1/4W	
R86	1-249-465-11	CARBON	47K	5%	1/4W	
R87	1-249-465-11	CARBON	47K	5%	1/4W	
R88	1-249-469-11	CARBON	100K	5%	1/4W	
R89	1-247-839-11	CARBON	2.2K	5%	1/4W	
R90	1-247-839-11	CARBON	2.2K	5%	1/4W	
R90B	1-247-831-11	CARBON	1K	5%	1/4W	
R91	1-247-839-11	CARBON	2.2K	5%	1/4W	
R92	1-247-839-11	CARBON	2.2K	5%	1/4W	
R93	1-249-420-11	CARBON	1.8K	5%	1/4W	F
R94	1-249-420-11	CARBON	1.8K	5%	1/4W	F
		< VARIABLE RESISTOR >				
VR01	1-228-996-00	RES, ADJ, METAL 47K				
VR02	1-228-998-00	RES, ADJ, METAL 220K				
		< CRYSTAL >				
XTL01	1-760-123-11	VIBRATOR, CRYSTAL 33.8688MHz				

****

Ref. No.	Part No.	Description			Remarks
*	1-670-387-11	DISK BOARD			
		**********			
		< RESISTOR >			
R630	1-247-841-11	CARBON	2.7K	5%	1/4W
R631	1-249-424-11	CARBON	3.9K	5%	1/4W F
R632	1-249-427-11	CARBON	6.8K	5%	1/4W F
R633	1-249-431-11	CARBON	15K	5%	1/4W
R634	1-249-436-11	CARBON	39K	5%	1/4W
		< SWITCH >			
S619	1-572-674-11	SWITCH, PUSH (DISC 1)			
S620	1-572-674-11	SWITCH, PUSH (DISC 2)			
S621	1-572-674-11	SWITCH, PUSH (DISC 3)			
S622	1-572-674-11	SWITCH, PUSH (DISC SKIP)			
S623	1-572-674-11	SWITCH, PUSH (OPEN/CLOSE)			
**********					
*	1-670-392-11	H.P BOARD			
		*********			
		< JACK >			
JK303	1-785-050-11	JACK (LARGE TYPE)(PHONE)			
**********					
*	A-4405-471-A	MAIN BOARD, COMPLETE			
		**********			
*	1-533-213-31	HOLDER, FUSE			
		< CAPACITOR >			
C101	1-162-294-31	CERAMIC	0.001uF	10%	50V
C102	1-162-294-31	CERAMIC	0.001uF	10%	50V
C103	1-162-193-31	CERAMIC	3.3PF	10%	50V
C104	1-161-494-00	CERAMIC	0.022uF		25V
C105	1-162-206-31	CERAMIC	20PF	5%	50V
C106	1-161-494-00	CERAMIC	0.022uF		25V
C107	1-161-494-00	CERAMIC	0.022uF		25V
C108	1-126-933-11	ELECT	100uF	20%	16V
C109	1-162-191-31	CERAMIC	2.2PF	10%	50V
C110	1-162-191-31	CERAMIC	2.2PF	10%	50V
C111	1-162-217-31	CERAMIC	56PF	5%	50V
C112	1-162-282-31	CERAMIC	100PF	10%	50V
C114	1-164-159-11	CERAMIC	0.1uF		50V
C115	1-162-294-31	CERAMIC	0.001uF	10%	50V
C116	1-130-014-00	FILM	470PF	5%	50V
C117	1-162-203-31	CERAMIC	15PF	5%	50V
C118	1-126-933-11	ELECT	100uF	20%	16V
C119	1-161-494-00	CERAMIC	0.022uF		25V
C120	1-161-494-00	CERAMIC	0.022uF		25V
C121	1-162-203-31	CERAMIC	15PF	5%	50V
C122	1-126-961-11	ELECT	2.2uF	20%	50V
C123	1-126-960-11	ELECT	1uF	20%	50V
C124	1-162-206-31	CERAMIC	20PF	5%	50V
C125	1-126-960-11	ELECT	1uF	20%	50V
C126	1-110-671-31	CERAMIC	47000PF		50V
C127	1-126-964-11	ELECT	10uF	20%	50V
C128	1-161-494-00	CERAMIC	0.022uF		25V
C129	1-109-889-11	ELECT	1uF	20%	50V
C130	1-161-054-00	CERAMIC	0.018uF	10%	25V
C131	1-161-054-00	CERAMIC	0.018uF	10%	25V

Ref. No.	Part No.	Description			Remarks
C132	1-161-047-00	CERAMIC	0.0047uF	10%	50V
C133	1-161-047-00	CERAMIC	0.0047uF	10%	50V
C134	1-162-294-31	CERAMIC	0.001uF	10%	50V
C135	1-126-962-11	ELECT	3.3uF	20%	50V
C137	1-126-959-11	ELECT	0.47uF	20%	50V
C138	1-161-494-00	CERAMIC	0.022uF		25V
C139	1-161-494-00	CERAMIC	0.022uF		25V
C140	1-126-933-11	ELECT	100uF	20%	16V
C141	1-161-494-00	CERAMIC	0.022uF		25V
C142	1-126-933-11	ELECT	100uF	20%	16V
C143	1-126-959-11	ELECT	0.47uF	20%	50V
C144	1-161-494-00	CERAMIC	0.022uF		25V
C145	1-162-217-31	CERAMIC	56PF	5%	50V
C146	1-162-294-31	CERAMIC	0.001uF	10%	50V
C148	1-161-494-00	CERAMIC	0.022uF		25V
C149	1-162-282-31	CERAMIC	100PF	10%	50V
C150	1-164-159-11	CERAMIC	0.1uF		50V
C151	1-128-551-11	ELECT	22uF	20%	25V
C152	1-162-282-31	CERAMIC	100PF	10%	50V
C154	1-162-282-31	CERAMIC	100PF	10%	50V
C155	1-162-282-31	CERAMIC	100PF	10%	50V
C156	1-102-516-11	CERAMIC	27PF	5%	50V
C157	1-102-516-11	CERAMIC	27PF	5%	50V
C158	1-126-967-11	ELECT	47uF	20%	16V
C159	1-162-282-31	CERAMIC	100PF	10%	50V
C160	1-126-963-11	ELECT	4.7uF	20%	50V
C161	1-126-963-11	ELECT	4.7uF	20%	50V
C162	1-161-494-00	CERAMIC	0.022uF		25V
C163	1-161-494-00	CERAMIC	0.022uF		25V
C164	1-162-282-31	CERAMIC	100PF	10%	50V
C165	1-161-494-00	CERAMIC	0.022uF		25V
C168	1-162-199-31	CERAMIC	10PF	5%	50V
C201	1-162-286-31	CERAMIC	220PF	10%	50V
C202	1-162-286-31	CERAMIC	220PF	10%	50V
C203	1-162-292-31	CERAMIC	680PF	10%	50V
C204	1-162-292-31	CERAMIC	680PF	10%	50V
C205	1-162-286-31	CERAMIC	220PF	10%	50V
C206	1-162-286-31	CERAMIC	220PF	10%	50V
C207	1-126-967-11	ELECT	47uF	20%	16V
C208	1-126-967-11	ELECT	47uF	20%	16V
C209	1-161-052-00	CERAMIC	0.012uF	10%	25V
C210	1-161-052-00	CERAMIC	0.012uF	10%	25V
C211	1-126-960-11	ELECT	1uF	20%	50V
C212	1-126-960-11	ELECT	1uF	20%	50V
C213	1-162-294-31	CERAMIC	0.001uF	10%	50V
C214	1-162-294-31	CERAMIC	0.001uF	10%	50V
C215	1-130-472-00	MYLAR	0.0012uF	5%	50V
C216	1-130-472-00	MYLAR	0.0012uF	5%	50V
C217	1-162-286-31	CERAMIC	220PF	10%	50V
C218	1-162-286-31	CERAMIC	220PF	10%	50V
C219	1-126-962-11	ELECT	3.3uF	20%	50V
C220	1-126-962-11	ELECT	3.3uF	20%	50V
C221	1-126-967-11	ELECT	47uF	20%	16V
C222	1-126-967-11	ELECT	47uF	20%	16V
C223	1-162-294-31	CERAMIC	0.001uF	10%	50V

MAIN

Ref. No.	Part No.	Description			Remarks
C224	1-162-294-31	CERAMIC	0.001uF	10%	50V
C225	1-126-962-11	ELECT	3.3uF	20%	50V
C226	1-126-962-11	ELECT	3.3uF	20%	50V
C228	1-126-964-11	ELECT	10uF	20%	50V
C230	1-130-485-00	MYLAR	0.015uF	5%	50V
C231	1-130-483-00	MYLAR	0.01uF	5%	50V
C232	1-162-600-11	CERAMIC	0.0047uF	30%	16V
C233	1-130-992-11	FILM	0.022uF	5%	50V
C234	1-126-967-11	ELECT	47uF	20%	16V
C235	1-161-494-00	CERAMIC	0.022uF		25V
C237	1-126-924-11	ELECT	330uF	20%	10V
C238	1-126-962-11	ELECT	3.3uF	20%	50V
C239	1-162-292-31	CERAMIC	680PF	10%	50V
C240	1-162-292-31	CERAMIC	680PF	10%	50V
C241	1-126-967-11	ELECT	47uF	20%	16V
C243	1-126-961-11	ELECT	2.2uF	20%	50V
C303	1-126-959-11	ELECT	0.47uF	20%	50V
C304	1-126-959-11	ELECT	0.47uF	20%	50V
C305	1-126-959-11	ELECT	0.47uF	20%	50V
C306	1-126-959-11	ELECT	0.47uF	20%	50V
C307	1-126-959-11	ELECT	0.47uF	20%	50V
C308	1-126-959-11	ELECT	0.47uF	20%	50V
C309	1-162-199-31	CERAMIC	10PF	5%	50V
C310	1-162-199-31	CERAMIC	10PF	5%	50V
C317	1-130-471-00	MYLAR	0.001uF	5%	50V
C318	1-130-471-00	MYLAR	0.001uF	5%	50V
C319	1-130-485-00	MYLAR	0.015uF	5%	50V
C320	1-130-485-00	MYLAR	0.015uF	5%	50V
C321	1-162-290-31	CERAMIC	470PF	10%	50V
C322	1-162-290-31	CERAMIC	470PF	10%	50V
C323	1-162-203-31	CERAMIC	15PF	5%	50V
C324	1-162-203-31	CERAMIC	15PF	5%	50V
C325	1-130-485-00	MYLAR	0.015uF	5%	50V
C326	1-130-485-00	MYLAR	0.015uF	5%	50V
C327	1-126-934-11	ELECT	220uF	20%	16V
C328	1-126-934-11	ELECT	220uF	20%	16V
C329	1-162-199-31	CERAMIC	10PF	5%	50V
C330	1-162-199-31	CERAMIC	10PF	5%	50V
C333	1-126-933-11	ELECT	100uF	20%	16V
C334	1-126-960-11	ELECT	1uF	20%	50V
C335	1-126-960-11	ELECT	1uF	20%	50V
C337	1-126-959-11	ELECT	0.47uF	20%	50V
C338	1-126-959-11	ELECT	0.47uF	20%	50V
C341	1-162-215-31	CERAMIC	47PF	5%	50V
C342	1-162-215-31	CERAMIC	47PF	5%	50V
C343	1-162-282-31	CERAMIC	100PF	10%	50V
C344	1-162-282-31	CERAMIC	100PF	10%	50V
C347	1-126-933-11	ELECT	100uF	20%	16V
C348	1-126-961-11	ELECT	2.2uF	20%	50V
C349	1-126-961-11	ELECT	2.2uF	20%	50V
C350	1-126-964-11	ELECT	10uF	20%	50V
C352	1-126-964-11	ELECT	10uF	20%	50V
C353	1-126-964-11	ELECT	10uF	20%	50V
C355	1-126-964-11	ELECT	10uF	20%	50V
C356	1-126-933-11	ELECT	100uF	20%	16V

Ref. No.	Part No.	Description			Remarks
C357	1-162-282-31	CERAMIC	100PF	10%	50V
C358	1-162-282-31	CERAMIC	100PF	10%	50V
C359	1-164-159-11	CERAMIC	0.1uF		50V
C360	1-164-159-11	CERAMIC	0.1uF		50V
C361	1-130-485-00	MYLAR	0.015uF	5%	50V
C362	1-130-485-00	MYLAR	0.015uF	5%	50V
C363	1-162-284-31	CERAMIC	150PF	10%	50V
C364	1-162-284-31	CERAMIC	150PF	10%	50V
C365	1-130-481-00	MYLAR	0.0068uF	5%	50V
C366	1-130-481-00	MYLAR	0.0068uF	5%	50V
C370	1-109-953-11	ELECT	2.2uF	20%	50V
C373	1-162-286-31	CERAMIC	220PF	10%	50V
C374	1-162-286-31	CERAMIC	220PF	10%	50V
C375	1-162-286-31	CERAMIC	220PF	10%	50V
C376	1-126-964-11	ELECT	10uF	20%	50V
C401	1-126-974-11	ELECT	3300uF	20%	50V
C402	1-126-974-11	ELECT	3300uF	20%	50V
C403	1-126-969-11	ELECT	220uF	20%	50V
C404	1-126-967-11	ELECT	47uF	20%	16V
C405	1-161-494-00	CERAMIC	0.022uF		25V
C406	1-161-494-00	CERAMIC	0.022uF		25V
C407	1-161-494-00	CERAMIC	0.022uF		25V
C408	1-161-494-00	CERAMIC	0.022uF		25V
C409	1-161-494-00	CERAMIC	0.022uF		25V
C410	1-126-943-11	ELECT	2200uF	20%	25V
C411	1-130-483-00	MYLAR	0.01uF	5%	50V
C412	1-126-933-11	ELECT	100uF	20%	16V
C413	1-130-483-00	MYLAR	0.01uF	5%	50V
C414	1-161-494-00	CERAMIC	0.022uF		25V
C415	1-161-494-00	CERAMIC	0.022uF		25V
C416	1-126-933-11	ELECT	100uF	20%	16V
C417	1-126-933-11	ELECT	100uF	20%	16V
C418	1-126-935-11	ELECT	470uF	20%	16V
C419	1-161-494-00	CERAMIC	0.022uF		25V
C420	1-126-933-11	ELECT	100uF	20%	16V
C421	1-161-494-00	CERAMIC	0.022uF		25V
C422	1-126-935-11	ELECT	470uF	20%	16V
C423	1-161-494-00	CERAMIC	0.022uF		25V
C424	1-130-483-00	MYLAR	0.01uF	5%	50V
C425	1-130-483-00	MYLAR	0.01uF	5%	50V
C426	1-126-933-11	ELECT	100uF	20%	16V
C427	1-161-494-00	CERAMIC	0.022uF		25V
C428	1-126-933-11	ELECT	100uF	20%	16V
C430	1-126-969-11	ELECT	220uF	20%	50V
C431	1-128-553-11	ELECT	220uF	20%	63V
C434	1-126-933-11	ELECT	100uF	20%	16V
C442	1-161-494-00	CERAMIC	0.022uF		25V
C443	1-161-494-00	CERAMIC	0.022uF		25V
C444	1-126-934-11	ELECT	220uF	20%	16V
C445	1-126-968-11	ELECT	100uF	20%	50V
C455	1-126-960-11	ELECT	1uF	20%	50V
C501	1-162-294-31	CERAMIC	0.001uF	10%	50V
C502	1-162-294-31	CERAMIC	0.001uF	10%	50V
C503	1-162-600-11	CERAMIC	0.0047uF	30%	16V
C504	1-162-600-11	CERAMIC	0.0047uF	30%	16V

Ref. No.	Part No.	Description			Remarks
C505	1-126-964-11	ELECT	10uF	20%	50V
C506	1-126-964-11	ELECT	10uF	20%	50V
C507	1-126-968-11	ELECT	100uF	20%	50V
C508	1-126-964-11	ELECT	10uF	20%	50V
C509	1-126-964-11	ELECT	10uF	20%	50V
C510	1-164-159-11	CERAMIC	0.1uF		50V
C511	1-162-195-31	CERAMIC	4.7PF	10%	50V
C512	1-162-195-31	CERAMIC	4.7PF	10%	50V
C513	1-130-495-00	MYLAR	0.1uF	5%	50V
C514	1-130-495-00	MYLAR	0.1uF	5%	50V
C515	1-126-968-11	ELECT	100uF	20%	50V
C516	1-164-159-11	CERAMIC	0.1uF		50V
C517	1-126-933-11	ELECT	100uF	20%	16V
C518	1-161-379-00	CERAMIC	0.01uF	20%	25V
C519	1-161-379-00	CERAMIC	0.01uF	20%	25V
C520	1-130-495-00	MYLAR	0.1uF	5%	50V
C521	1-130-495-00	MYLAR	0.1uF	5%	50V
C551	1-161-494-00	CERAMIC	0.022uF		25V
C552	1-161-494-00	CERAMIC	0.022uF		25V
C553	1-126-960-11	ELECT	1uF	20%	50V
C554	1-161-379-00	CERAMIC	0.01uF	20%	25V
C555	1-126-933-11	ELECT	100uF	20%	16V
C556	1-161-494-00	CERAMIC	0.022uF		25V
C557	1-126-963-11	ELECT	4.7uF	20%	50V
C558	1-126-933-11	ELECT	100uF	20%	16V
C581	1-126-967-11	ELECT	47uF	20%	16V
		< FILTER >			
CF101	1-579-568-11	FILTER, CERAMIC			
CF102	1-567-390-11	FILTER,CERAMIC 10.7M			
CF103	1-527-996-11	FILTER, CERAMIC			
CF104	1-579-856-11	DISCRIMINATOR, CERAMIC			
CF105	1-577-091-11	OSCILLATOR, CERAMIC			
		< CONNECTOR >			
* CN201	1-564-705-11	PIN, CONNECTOR (SMALL TYPE) 3P			
CN202	1-564-707-11	PIN, CONNECTOR (SMALL TYPE) 5P			
* CN203	1-564-704-11	PIN, CONNECTOR (SMALL TYPE) 2P			
* CN204	1-568-273-11	SOCKET, CONNECTOR 7P			
* CN301	1-770-334-11	PIN, CONNECTOR (PC BOARD) 17P			
* CN302	1-568-272-11	SOCKET, CONNECTOR 6P			
CN401	1-564-511-11	PLUG, CONNECTOR 8P			
		< DIODE >			
D101	8-719-059-68	DIODE KV1340A-2			
D102	8-719-991-33	DIODE 1SS133T-77			
D103	8-719-059-68	DIODE KV1340A-2			
D104	8-719-800-72	DIODE 1SV149-B			
D105	8-719-991-33	DIODE 1SS133T-77			
D106	8-719-991-33	DIODE 1SS133T-77			
D107	8-719-109-89	DIODE RD5.6ESB2			
D108	8-719-991-33	DIODE 1SS133T-77			
D109	8-719-991-33	DIODE 1SS133T-77			
D110	8-719-991-33	DIODE 1SS133T-77			
D201	8-719-991-33	DIODE 1SS133T-77			
D202	8-719-991-33	DIODE 1SS133T-77			
D203	8-719-991-33	DIODE 1SS133T-77			
D204	8-719-991-33	DIODE 1SS133T-77			
D205	8-719-991-33	DIODE 1SS133T-77			

Ref. No.	Part No.	Description	Remarks
D208	8-719-991-33	DIODE 1SS133T-77	
D209	8-719-991-33	DIODE 1SS133T-77	
D210	8-719-991-33	DIODE 1SS133T-77	
D211	8-719-991-33	DIODE 1SS133T-77	
D212	8-719-991-33	DIODE 1SS133T-77	
D301	8-719-991-33	DIODE 1SS133T-77	
D401		DIODE GBU4D	
D402	8-719-921-40	DIODE MTZJ-4.7C	
D405	8-719-200-02	DIODE 10E2	
D406	8-719-200-02	DIODE 10E2	
D407	8-719-200-02	DIODE 10E2	
D408	8-719-200-02	DIODE 10E2	
D409	8-719-110-31	DIODE RD12ES-B2	
D411	8-719-110-31	DIODE RD12ES-B2	
D412	8-719-110-08	DIODE RD8.2ES-B2	
D413	8-719-109-93	DIODE RD6.2ESB2	
D414	8-719-200-02	DIODE 10E2	
D415	8-719-200-02	DIODE 10E2	
D416	8-719-200-02	DIODE 10E2	
D417	8-719-991-33	DIODE 1SS133T-77	
D441	8-719-982-13	DIODE MTZJ-27	
D501	8-719-991-33	DIODE 1SS133T-77	
D551	8-719-991-33	DIODE 1SS133T-77	
D552	8-719-991-33	DIODE 1SS133T-77	
D553	8-719-991-33	DIODE 1SS133T-77	
D581	8-719-991-33	DIODE 1SS133T-77	
D584	8-719-991-33	DIODE 1SS133T-77	
		< FUSE >	
⚠F401	1-576-104-11	FUSE 250V/2A	
		< IC >	
IC101	8-759-505-55	IC NJM4558L	
IC102	8-759-090-40	IC LA1831	
IC103	8-759-175-87	IC LC7218-ST	
IC201	8-759-242-58	IC TA8189N	
IC301	8-759-473-59	IC LC75392	
IC302	8-759-505-55	IC NJM4558L	
IC501	8-749-013-04	IC PHOTO COUPLER MOC8104TV	
IC502	8-759-111-68	IC uPC1237HA	
		< TERMINAL >	
JK101	1-694-092-21	TERMINAL BOARD (SPEAKER)	
JK501	1-694-092-21	TERMINAL BOARD (SPEAKER)	
		< COIL >	
L101	1-429-551-11	TRANSFORMER, FM RF	
L102	1-429-550-11	TRANSFORMER, FM ANT	
L103	1-411-798-11	COIL, FM OSC	
L104	1-411-901-11	COIL, ANTENNA	
L105	1-429-555-11	TRANSFORMER, MW OSC	
L106	1-408-611-31	INDUCTOR 47mH	
L201	1-429-552-11	TRANSFORMER, BIAS OSCILLATION	
* L501	1-420-872-00	COIL, AIR CORE	
* L502	1-420-872-00	COIL, AIR CORE	

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

MAIN

Ref. No.	Part No.	Description	Remarks
		< TRANSISTOR >	
Q101	8-729-672-42	TRANSISTOR 2SC2724-C	
Q102	8-729-178-63	TRANSISTOR 2SC2786-K	
Q103	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q104	8-729-041-83	TRANSISTOR 2SK544E	
Q105	8-729-194-57	TRANSISTOR 2SC945-P	
Q106	8-729-194-57	TRANSISTOR 2SC945-P	
Q108	8-729-194-57	TRANSISTOR 2SC945-P	
Q109	8-729-194-57	TRANSISTOR 2SC945-P	
Q201	8-729-194-57	TRANSISTOR 2SC945-P	
Q202	8-729-194-57	TRANSISTOR 2SC945-P	
Q203	8-729-194-57	TRANSISTOR 2SC945-P	
Q204	8-729-194-57	TRANSISTOR 2SC945-P	
Q205	8-729-194-57	TRANSISTOR 2SC945-P	
Q206	8-729-194-57	TRANSISTOR 2SC945-P	
Q207	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q208	8-729-194-57	TRANSISTOR 2SC945-P	
Q209	8-729-194-57	TRANSISTOR 2SC945-P	
Q210	8-729-194-57	TRANSISTOR 2SC945-P	
Q211	8-729-194-57	TRANSISTOR 2SC945-P	
Q212	8-729-194-57	TRANSISTOR 2SC945-P	
Q213	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q214	8-729-194-57	TRANSISTOR 2SC945-P	
Q216	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q217	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q218	8-729-142-46	TRANSISTOR 2SC2001-LK	
Q220	8-729-194-57	TRANSISTOR 2SC945-P	
Q301	8-729-194-57	TRANSISTOR 2SC945-P	
Q302	8-729-194-57	TRANSISTOR 2SC945-P	
Q303	8-729-231-55	TRANSISTOR 2SC2878-AB	
Q304	8-729-231-55	TRANSISTOR 2SC2878-AB	
Q306	8-729-194-57	TRANSISTOR 2SC945-P	
Q307	8-729-194-57	TRANSISTOR 2SC945-P	
Q311	8-729-194-57	TRANSISTOR 2SC945-P	
Q312	8-729-194-57	TRANSISTOR 2SC945-P	
Q401	8-729-188-23	TRANSISTOR 2SD882-P	
Q402	8-729-142-46	TRANSISTOR 2SC2001-LK	
Q403	8-729-188-23	TRANSISTOR 2SD882-P	
Q404	8-729-142-46	TRANSISTOR 2SC2001-LK	
Q406	8-729-993-43	TRANSISTOR 2SA934R	
Q407	8-729-194-57	TRANSISTOR 2SC945-P	
Q408	8-729-232-32	TRANSISTOR 2SA965-OY-TPE6	
Q409	8-729-029-86	TRANSISTOR DTC124ES	
Q410	8-729-029-86	TRANSISTOR DTC124ES	
Q551	8-729-184-53	TRANSISTOR 2SC1845-EA	
Q552	8-729-184-53	TRANSISTOR 2SC1845-EA	
Q553	8-729-140-82	TRANSISTOR 2SA988-PAFAEA	
Q583	8-729-029-66	TRANSISTOR DTC114ESA	
Q584	8-729-119-76	TRANSISTOR 2SA1175-HFE	
Q585	8-729-029-86	TRANSISTOR DTC124ES	
Q586	8-729-029-86	TRANSISTOR DTC124ES	
		< RESISTOR >	
R101	1-247-879-11	CARBON 100K 5% 1/4W	
R102	1-247-830-11	CARBON 910 5% 1/4W	
R103	1-249-398-11	CARBON 27 5% 1/4W	F
R104	1-247-807-11	CARBON 100 5% 1/4W	
R105	1-249-411-11	CARBON 330 5% 1/4W	
R106	1-247-807-11	CARBON 100 5% 1/4W	
R107	1-247-879-11	CARBON 100K 5% 1/4W	
R108	1-247-871-11	CARBON 47K 5% 1/4W	
R109	1-247-879-11	CARBON 100K 5% 1/4W	
R110	1-247-867-11	CARBON 33K 5% 1/4W	
R111	1-247-830-11	CARBON 910 5% 1/4W	
R112	1-247-807-11	CARBON 100 5% 1/4W	
R113	1-247-879-11	CARBON 100K 5% 1/4W	
R114	1-247-879-11	CARBON 100K 5% 1/4W	
R115	1-247-830-11	CARBON 910 5% 1/4W	
R116	1-249-397-11	CARBON 22 5% 1/4W	F
R117	1-249-431-11	CARBON 15K 5% 1/4W	
R118	1-247-807-11	CARBON 100 5% 1/4W	
R119	1-249-413-11	CARBON 470 5% 1/4W	F
R120	1-247-843-11	CARBON 3.3K 5% 1/4W	
R121	1-247-843-11	CARBON 3.3K 5% 1/4W	
R122	1-249-409-11	CARBON 220 5% 1/4W	F
R123	1-249-428-11	CARBON 8.2K 5% 1/4W	F
R124	1-247-843-11	CARBON 3.3K 5% 1/4W	
R126	1-247-843-11	CARBON 3.3K 5% 1/4W	
R127	1-247-843-11	CARBON 3.3K 5% 1/4W	
R128	1-247-847-11	CARBON 4.7K 5% 1/4W	
R129	1-247-847-11	CARBON 4.7K 5% 1/4W	
R130	1-247-807-11	CARBON 100 5% 1/4W	
R131	1-247-830-11	CARBON 910 5% 1/4W	
R132	1-247-855-11	CARBON 10K 5% 1/4W	
R133	1-247-843-11	CARBON 3.3K 5% 1/4W	
R134	1-249-427-11	CARBON 6.8K 5% 1/4W	F
R135	1-247-830-11	CARBON 910 5% 1/4W	
R136	1-247-847-11	CARBON 4.7K 5% 1/4W	
R137	1-247-855-11	CARBON 10K 5% 1/4W	
R138	1-247-807-11	CARBON 100 5% 1/4W	
R139	1-247-855-11	CARBON 10K 5% 1/4W	
R140	1-247-855-11	CARBON 10K 5% 1/4W	
R141	1-247-839-11	CARBON 2.2K 5% 1/4W	
R142	1-247-839-11	CARBON 2.2K 5% 1/4W	
R143	1-247-839-11	CARBON 2.2K 5% 1/4W	
R146	1-247-830-11	CARBON 910 5% 1/4W	
R148	1-247-855-11	CARBON 10K 5% 1/4W	
R149	1-247-855-11	CARBON 10K 5% 1/4W	
R150	1-247-843-11	CARBON 3.3K 5% 1/4W	
R160	1-247-903-00	CARBON 1M 5% 1/4W	
R201	1-249-393-11	CARBON 10 5% 1/4W	F
R202	1-249-393-11	CARBON 10 5% 1/4W	F
R203	1-247-889-00	CARBON 270K 5% 1/4W	
R204	1-247-889-00	CARBON 270K 5% 1/4W	
R205	1-249-406-11	CARBON 120 5% 1/4W	F
R205A	1-247-827-11	CARBON 680 5% 1/4W	
R206	1-249-406-11	CARBON 120 5% 1/4W	F
R206A	1-247-827-11	CARBON 680 5% 1/4W	
R207	1-249-430-11	CARBON 12K 5% 1/4W	
R208	1-249-430-11	CARBON 12K 5% 1/4W	
R209	1-247-863-11	CARBON 22K 5% 1/4W	
R210	1-247-855-11	CARBON 10K 5% 1/4W	
R211	1-247-891-00	CARBON 330K 5% 1/4W	
R212	1-247-891-00	CARBON 330K 5% 1/4W	
R213	1-247-847-11	CARBON 4.7K 5% 1/4W	
R214	1-247-847-11	CARBON 4.7K 5% 1/4W	
R215	1-247-855-11	CARBON 10K 5% 1/4W	
R216	1-249-431-11	CARBON 15K 5% 1/4W	

Ref. No.	Part No.	Description			Remarks
R217	1-247-871-11	CARBON	47K	5%	1/4W
R218	1-249-409-11	CARBON	220	5%	1/4W F
R219	1-247-841-11	CARBON	2.7K	5%	1/4W
R220	1-249-434-11	CARBON	27K	5%	1/4W
R221	1-247-879-11	CARBON	100K	5%	1/4W
R222	1-247-879-11	CARBON	100K	5%	1/4W
R223	1-247-855-11	CARBON	10K	5%	1/4W
R224	1-247-855-11	CARBON	10K	5%	1/4W
R225	1-249-434-11	CARBON	27K	5%	1/4W
R226	1-249-434-11	CARBON	27K	5%	1/4W
R227	1-247-885-00	CARBON	180K	5%	1/4W
R228	1-247-885-00	CARBON	180K	5%	1/4W
R229	1-247-881-00	CARBON	120K	5%	1/4W
R230	1-247-881-00	CARBON	120K	5%	1/4W
R231	1-249-420-11	CARBON	1.8K	5%	1/4W F
R232	1-249-420-11	CARBON	1.8K	5%	1/4W F
R233	1-247-839-11	CARBON	2.2K	5%	1/4W
R234	1-247-839-11	CARBON	2.2K	5%	1/4W
R235	1-247-855-11	CARBON	10K	5%	1/4W
R236	1-247-855-11	CARBON	10K	5%	1/4W
R237	1-247-839-11	CARBON	2.2K	5%	1/4W
R238	1-247-843-11	CARBON	3.3K	5%	1/4W
R240	1-249-393-11	CARBON	10	5%	1/4W F
R241	1-249-434-11	CARBON	27K	5%	1/4W
R242	1-249-413-11	CARBON	470	5%	1/4W F
R243	1-247-855-11	CARBON	10K	5%	1/4W
R244	1-247-855-11	CARBON	10K	5%	1/4W
R245	1-249-393-11	CARBON	10	5%	1/4W F
R246	1-249-393-11	CARBON	10	5%	1/4W F
R247	1-247-855-11	CARBON	10K	5%	1/4W
R248	1-249-434-11	CARBON	27K	5%	1/4W
R249	1-249-381-11	CARBON	1	5%	1/4W F
R250	1-247-847-11	CARBON	4.7K	5%	1/4W
R251	1-247-847-11	CARBON	4.7K	5%	1/4W
R252	1-247-871-11	CARBON	47K	5%	1/4W
R253	1-247-871-11	CARBON	47K	5%	1/4W
R256	1-247-831-11	CARBON	1K	5%	1/4W
R257	1-247-839-11	CARBON	2.2K	5%	1/4W
R258	1-249-431-11	CARBON	15K	5%	1/4W
R259	1-247-871-11	CARBON	47K	5%	1/4W
R261	1-247-839-11	CARBON	2.2K	5%	1/4W
R264	1-247-871-11	CARBON	47K	5%	1/4W
R265	1-247-887-00	CARBON	220K	5%	1/4W
R266	1-247-839-11	CARBON	2.2K	5%	1/4W
R267	1-247-871-11	CARBON	47K	5%	1/4W
R268	1-247-871-11	CARBON	47K	5%	1/4W
R269	1-247-891-00	CARBON	330K	5%	1/4W
R270	1-247-891-00	CARBON	330K	5%	1/4W
R271	1-247-839-11	CARBON	2.2K	5%	1/4W
R301	1-247-855-11	CARBON	10K	5%	1/4W
R302	1-247-855-11	CARBON	10K	5%	1/4W
R305	1-249-417-11	CARBON	1K	5%	1/4W F
R306	1-249-417-11	CARBON	1K	5%	1/4W F
R307	1-249-418-11	CARBON	1.2K	5%	1/4W F
R308	1-249-418-11	CARBON	1.2K	5%	1/4W F
R309	1-249-440-11	CARBON	82K	5%	1/4W
R310	1-249-440-11	CARBON	82K	5%	1/4W
R315	1-247-867-11	CARBON	33K	5%	1/4W
R316	1-247-867-11	CARBON	33K	5%	1/4W
R317	1-247-887-00	CARBON	220K	5%	1/4W

Ref. No.	Part No.	Description			Remarks
R318	1-247-887-00	CARBON	220K	5%	1/4W
R319	1-247-855-11	CARBON	10K	5%	1/4W
R320	1-247-855-11	CARBON	10K	5%	1/4W
R321	1-249-434-11	CARBON	27K	5%	1/4W
R322	1-249-434-11	CARBON	27K	5%	1/4W
R323	1-247-871-11	CARBON	47K	5%	1/4W
R324	1-247-871-11	CARBON	47K	5%	1/4W
R325	1-247-863-11	CARBON	22K	5%	1/4W
R326	1-247-863-11	CARBON	22K	5%	1/4W
R327	1-249-434-11	CARBON	27K	5%	1/4W
R328	1-249-434-11	CARBON	27K	5%	1/4W
R329	1-249-430-11	CARBON	12K	5%	1/4W
R330	1-249-430-11	CARBON	12K	5%	1/4W
R331	1-247-839-11	CARBON	2.2K	5%	1/4W
R332	1-247-839-11	CARBON	2.2K	5%	1/4W
R333	1-247-839-11	CARBON	2.2K	5%	1/4W
R334	1-247-855-11	CARBON	10K	5%	1/4W
R335	1-247-855-11	CARBON	10K	5%	1/4W
R336	1-247-847-11	CARBON	4.7K	5%	1/4W
R337	1-249-409-11	CARBON	220	5%	1/4W F
R338	1-249-413-11	CARBON	470	5%	1/4W F
R339	1-247-903-00	CARBON	1M	5%	1/4W
R340	1-247-903-00	CARBON	1M	5%	1/4W
R341	1-247-855-11	CARBON	10K	5%	1/4W
R342	1-247-855-11	CARBON	10K	5%	1/4W
R345	1-249-417-11	CARBON	1K	5%	1/4W F
R346	1-249-417-11	CARBON	1K	5%	1/4W F
R347	1-247-871-11	CARBON	47K	5%	1/4W
R348	1-249-871-11	CARBON	47K	5%	1/4W
R349	1-247-849-11	CARBON	5.6K	5%	1/4W
R350	1-247-849-11	CARBON	5.6K	5%	1/4W
R351	1-247-871-11	CARBON	47K	5%	1/4W
R352	1-247-871-11	CARBON	47K	5%	1/4W
R356	1-249-417-11	CARBON	1K	5%	1/4W F
R357	1-249-417-11	CARBON	1K	5%	1/4W F
R358	1-247-855-11	CARBON	10K	5%	1/4W
R359	1-247-855-11	CARBON	10K	5%	1/4W
R360	1-249-409-11	CARBON	220	5%	1/4W F
R361	1-247-825-11	CARBON	560	5%	1/4W
R362	1-247-855-11	CARBON	10K	5%	1/4W
R363	1-247-855-11	CARBON	10K	5%	1/4W
R364	1-249-421-11	CARBON	6.8K	5%	1/4W
R365	1-249-421-11	CARBON	6.8K	5%	1/4W
R366	1-247-847-11	CARBON	4.7K	5%	1/4W
R370	1-247-843-11	CARBON	3.3K	5%	1/4W
R371	1-247-843-11	CARBON	3.3K	5%	1/4W
R372	1-247-867-11	CARBON	33K	5%	1/4W
R373	1-247-867-11	CARBON	33K	5%	1/4W
R384	1-247-879-11	CARBON	100K	5%	1/4W
R385	1-247-879-11	CARBON	100K	5%	1/4W
R386	1-247-879-11	CARBON	100K	5%	1/4W
R387	1-247-879-11	CARBON	100K	5%	1/4W
R389	1-247-879-11	CARBON	100K	5%	1/4W
R390	1-247-879-11	CARBON	100K	5%	1/4W
R401	1-247-839-11	CARBON	2.2K	5%	1/4W
R402	1-247-827-11	CARBON	680	5%	1/4W
R403	1-249-417-11	CARBON	1K	5%	1/4W F
R404	1-249-411-11	CARBON	330	5%	1/4W
R405	1-247-825-11	CARBON	560	5%	1/4W
R406	1-259-676-11	CARBON	1K	2%	1W

Ref. No.	Part No.	Description			Remarks
R408	1-247-855-11	CARBON	10K	5%	1/4W
R409	1-249-417-11	CARBON	1K	5%	1/4W F
R410	1-247-847-11	CARBON	4.7K	5%	1/4W
R411	1-247-807-11	CARBON	100	5%	1/4W
R412	1-247-807-11	CARBON	100	5%	1/4W
R413	1-247-855-11	CARBON	10K	5%	1/4W
R414	1-247-855-11	CARBON	10K	5%	1/4W
R500	1-247-807-11	CARBON	100	5%	1/4W
R501	1-249-438-11	CARBON	56K	5%	1/4W
R502	1-249-438-11	CARBON	56K	5%	1/4W
R503	1-247-841-11	CARBON	2.7K	5%	1/4W
R504	1-247-841-11	CARBON	2.7K	5%	1/4W
R505	1-249-438-11	CARBON	56K	5%	1/4W
R506	1-249-438-11	CARBON	56K	5%	1/4W
R507	1-260-072-11	CARBON	4.7	5%	1/2W
R508	1-260-072-11	CARBON	4.7	5%	1/2W
R509	1-247-807-11	CARBON	100	5%	1/4W
R516	1-260-076-11	CARBON	10	5%	1/2W
R517	1-260-076-11	CARBON	10	5%	1/2W
R521	1-249-389-11	CARBON	4.7	5%	1/4W F
R522	1-249-389-11	CARBON	4.7	5%	1/4W F
R525	1-260-083-11	CARBON	47	5%	1/2W
R526	1-260-083-11	CARBON	47	5%	1/2W
R527	1-249-393-11	CARBON	10	5%	1/4W F
R551	1-208-601-11	REGISTER	0.1	10%	2W F
R552	1-208-601-11	REGISTER	0.1	10%	2W F
R553	1-247-879-11	CARBON	100K	5%	1/4W
R554	1-247-879-11	CARBON	100K	5%	1/4W
R555	1-247-839-11	CARBON	2.2K	5%	1/4W
R556	1-247-839-11	CARBON	2.2K	5%	1/4W
R557	1-249-431-11	CARBON	15K	5%	1/4W
R558	1-249-431-11	CARBON	15K	5%	1/4W
R559	1-247-839-11	CARBON	2.2K	5%	1/4W
R560	1-249-430-11	CARBON	12K	5%	1/4W
R561	1-249-430-11	CARBON	12K	5%	1/4W
R562	1-247-871-11	CARBON	47K	5%	1/4W
R563	1-247-855-11	CARBON	10K	5%	1/4W
R564	1-247-879-11	CARBON	100K	5%	1/4W
R565	1-247-847-11	CARBON	4.7K	5%	1/4W
R566	1-249-417-11	CARBON	1K	5%	1/4W F
R567	1-249-438-11	CARBON	56K	5%	1/4W
R583	1-249-439-11	CARBON	68K	5%	1/4W
R584	1-247-847-11	CARBON	4.7K	5%	1/4W
R585	1-247-839-11	CARBON	2.2K	5%	1/4W
R586	1-249-431-11	CARBON	15K	5%	1/4W
R587	1-249-432-11	CARBON	18K	5%	1/4W
R588	1-249-438-11	CARBON	56K	5%	1/4W
R589	1-249-434-11	CARBON	27K	5%	1/4W
R590	1-249-431-11	CARBON	15K	5%	1/4W
R591	1-247-847-11	CARBON	4.7K	5%	1/4W
		< RELAY >			
RL501	1-515-921-11	RELAY (12V)			
		< METAL RES >			
SFR101	1-228-995-00	RES, ADJ, METAL 22K			
SFR201	1-228-993-00	RES, ADJ, METAL 4.7K			

Ref. No.	Part No.	Description			Remarks
		< TRIMMER >			
TC101	1-141-304-21	CAP, TRIMMER 10PF			
TC102	1-141-304-21	CAP, TRIMMER 10PF			
		< TRANSFORMER >			
T101	1-429-553-11	TRANSFORMER, FM IFT			
T102	1-429-554-11	TRANSFORMER, AM IFT			
		< VIBRATOR >			
X101	1-579-585-11	VIBRATOR, CRYSTAL 7.2MHz			
**********					
*	1-670-801-11	MOTOR BOARD			
		**********			
		< CAPACITOR >			
C01	1-126-963-11	ELECT	4.7uF	20%	50V
C82	1-164-159-11	CERAMIC	0.1uF		50V
		< CONNECTOR >			
* CN06	1-568-824-11	SOCKET, CONNECTOR 5P			
**********					
*	1-639-678-12	MOTOR (6P) (S) BOARD			
		**********			
		< CONNECTOR >			
CN1	1-564-722-11	PIN, CONNECTOR (SMALL TYPE) 6P			
		< MOTOR >			
M101	X-2625-877-1	MOTOR ASSY (SPINDLE)			
M102	X-2625-769-1	MOTOR ASSY (SLED)			
		< SWITCH >			
S1	1-572-085-11	SWITCH, LEAF (LIMIT)			
**********					
*	A-4414-553-A	PANEL BOARD, COMPLETE			
		**********			
*	4-210-348-01	HOLDER, LED			
		< CAPACITOR >			
C601	1-164-159-11	CERAMIC	0.1uF		50V
C602	1-126-933-11	ELECT	100uF	20%	16V
C603	1-126-916-11	ELECT	1000uF	20%	6.3V
C604	1-161-494-00	CERAMIC	0.022uF		25V
C605	1-126-967-11	ELECT	47uF	20%	16V
C606	1-164-159-11	CERAMIC	0.1uF		50V
C607	1-126-961-11	ELECT	2.2uF	20%	50V
C608	1-126-960-11	ELECT	1uF	20%	50V
C609	1-164-159-11	CERAMIC	0.1uF		50V
C610	1-126-967-11	ELECT	47uF	20%	16V
C611	1-161-494-00	CERAMIC	0.022uF		25V
C612	1-162-201-31	CERAMIC	12PF	5%	50V
C613	1-162-201-31	CERAMIC	12PF	5%	50V
C614	1-126-960-11	ELECT	1uF	20%	50V
C615	1-162-282-31	CERAMIC	100PF	10%	50V

Ref. No.	Part No.	Description			Remarks
C616	1-130-491-00	MYLAR	0.047uF	5%	50V
C617	1-130-491-00	MYLAR	0.047uF	5%	50V
C619	1-130-491-00	MYLAR	0.047uF	5%	50V
C620	1-126-933-11	ELECT	100uF	20%	16V
C621	1-161-494-00	CERAMIC	0.022uF		25V
C623	1-162-294-31	CERAMIC	0.001uF	10%	50V
C624	1-162-294-31	CERAMIC	0.001uF	10%	50V
C625	1-162-294-31	CERAMIC	0.001uF	10%	50V
		< CONNECTOR >			
* CN301	1-770-332-11	HOUSING, CONNECTOR (PC BOARD) 17P			
CN601	1-568-468-11	SOCKET, CONNECTOR 18P			
		< DIODE >			
D601	8-719-911-19	DIODE 1SS119-25			
D602	8-719-911-19	DIODE 1SS119-25			
D603	8-719-911-19	DIODE 1SS119-25			
D604	8-719-911-19	DIODE 1SS119-25			
D605	8-719-911-19	DIODE 1SS119-25			
D606	8-719-911-19	DIODE 1SS119-25			
D607	8-719-911-19	DIODE 1SS119-25			
D608	8-719-911-19	DIODE 1SS119-25			
D609	8-719-911-19	DIODE 1SS119-25			
D610	8-719-911-19	DIODE 1SS119-25			
D611	8-719-911-19	DIODE 1SS119-25			
		< FLUORECENT INDICATOR >			
FLD601	1-517-761-11	INDICATOR TUBE, FLUORESCENT			
		< IC >			
IC601	8-759-539-19	IC uPD780205GF-042-3BA			
IC602	8-759-275-23	IC BU2092			
		< COIL >			
L601	1-408-096-00	INDUCTOR 470uH			
L602	1-408-611-31	INDUCTOR 47uH			
		< LED >			
LED601	8-719-046-80	DIODE SML19416W-TP4			
LED602	8-719-044-69	DIODE SEL1910DTP3			
		< TRANSISTOR >			
Q601	8-729-194-57	TRANSISTOR 2SC945-P			
Q602	8-729-194-57	TRANSISTOR 2SC945-P			
Q603	8-729-194-57	TRANSISTOR 2SC945-P			
Q604	8-729-119-76	TRANSISTOR 2SA1175-HFE			
Q605	8-729-029-86	TRANSISTOR DTC124ESA			
Q606	8-729-029-86	TRANSISTOR DTC124ESA			
		< RESISTOR >			
R601	1-247-871-11	CARBON	47K	5%	1/4W
R602	1-249-417-11	CARBON	1K	5%	1/4W F
R603	1-249-417-11	CARBON	1K	5%	1/4W F
R604	1-247-871-11	CARBON	47K	5%	1/4W
R605	1-247-871-11	CARBON	47K	5%	1/4W

Ref. No.	Part No.	Description			Remarks
R606	1-249-417-11	CARBON	1K	5%	1/4W F
R607	1-249-431-11	CARBON	15K	5%	1/4W
R608	1-247-871-11	CARBON	47K	5%	1/4W
R609	1-247-855-11	CARBON	10K	5%	1/4W
R610	1-247-855-11	CARBON	10K	5%	1/4W
R611	1-247-855-11	CARBON	10K	5%	1/4W
R612	1-247-855-11	CARBON	10K	5%	1/4W
R613	1-247-855-11	CARBON	10K	5%	1/4W
R614	1-247-855-11	CARBON	10K	5%	1/4W
R615	1-247-855-11	CARBON	10K	5%	1/4W
R616	1-249-418-11	CARBON	1.2K	5%	1/4W F
R617	1-249-420-11	CARBON	1.8K	5%	1/4W F
R618	1-249-418-11	CARBON	1.2K	5%	1/4W F
R619	1-249-420-11	CARBON	1.8K	5%	1/4W F
R620	1-247-841-11	CARBON	2.7K	5%	1/4W
R621	1-249-424-11	CARBON	3.9K	5%	1/4W F
R622	1-249-427-11	CARBON	6.8K	5%	1/4W F
R623	1-249-431-11	CARBON	15K	5%	1/4W
R624	1-249-436-11	CARBON	39K	5%	1/4W
R625	1-249-418-11	CARBON	1.2K	5%	1/4W F
R626	1-249-420-11	CARBON	1.8K	5%	1/4W F
R627	1-249-418-11	CARBON	1.2K	5%	1/4W F
R628	1-249-420-11	CARBON	1.8K	5%	1/4W F
R629	1-247-841-11	CARBON	2.7K	5%	1/4W
R635	1-247-871-11	CARBON	47K	5%	1/4W
R636	1-249-407-11	CARBON	150	5%	1/4W F
R637	1-249-417-11	CARBON	1K	5%	1/4W F
R638	1-249-417-11	CARBON	1K	5%	1/4W F
R639	1-249-417-11	CARBON	1K	5%	1/4W F
R640	1-247-839-11	CARBON	2.2K	5%	1/4W
R641	1-247-839-11	CARBON	2.2K	5%	1/4W
R642	1-247-839-11	CARBON	2.2K	5%	1/4W
R643	1-247-855-11	CARBON	10K	5%	1/4W
R644	1-247-855-11	CARBON	10K	5%	1/4W
R645	1-247-855-11	CARBON	10K	5%	1/4W
R646	1-247-855-11	CARBON	10K	5%	1/4W
R647	1-247-855-11	CARBON	10K	5%	1/4W
R648	1-247-855-11	CARBON	10K	5%	1/4W
R649	1-249-407-11	CARBON	150	5%	1/4W F
R650	1-249-409-11	CARBON	220	5%	1/4W F
R651	1-247-855-11	CARBON	10K	5%	1/4W
R652	1-247-855-11	CARBON	10K	5%	1/4W
		< SWITCH >			
S601	1-572-674-11	SWITCH, PUSH (TAPE)			
S602	1-572-674-11	SWITCH, PUSH (TUNER/BAND)			
S603	1-572-674-11	SWITCH, PUSH (CD PLAY/PAUSE)			
S604	1-572-674-11	SWITCH, PUSH (EDIT)			
S605	1-572-674-11	SWITCH, PUSH (TUNER MEMORY REPEAT)			
S606	1-572-674-11	SWITCH, PUSH (STEREO/MONO PLAY MODE)			
S607	1-572-674-11	SWITCH, PUSH (CD STOP)			
S608	1-572-674-11	SWITCH, PUSH (CD FF/TUNER UP)			
S609	1-572-674-11	SWITCH, PUSH (TUNER PRESET+)			
S610	1-572-674-11	SWITCH, PUSH (AMS + TU PRESET+)			
S611	1-572-674-11	SWITCH, PUSH (AMS – TU PRESET–)			
S612	1-572-674-11	SWITCH, PUSH (POWER)			
S613	1-572-674-11	SWITCH, PUSH (CLOCK TIMER SET)			
S614	1-572-674-11	SWITCH, PUSH (TIMER ON/OFF)			
S615	1-572-674-11	SWITCH, PUSH (ENTER/NEXT)			

PANEL | **R/P SWITCH** | **SENSOR** | **SW (A)** | **SW (B)** | **SW (C)** | **SW (D)** | **VR**

Ref. No.	Part No.	Description			Remarks
S616	1-572-674-11	SWITCH, PUSH (FILE SELECT)			
S617	1-572-674-11	SWITCH, PUSH (DBFB)			
S618	1-572-674-11	SWITCH, PUSH (DISPLAY)			
		< VIBRATOR >			
X601	1-760-096-11	VIBRATOR, CRYSTAL 4.1943MHz			
*	1-666-444-11	R/P SWITCH BOARD			
		< CAPACITOR >			
C236	1-126-024-11	ELECT	220uF	20% 16V	
C244	1-161-494-00	CERAMIC	0.022uF	25V	
		< DIODE >			
D206	8-719-904-02	DIODE 10E2			
D207	8-719-904-02	DIODE 10E2			
*	1-670-388-11	SENSOR BOARD			
		< IC >			
RM601	8-749-013-84	IC SPS-447-1			
*	1-670-797-11	SW (A) BOARD			
		< SWITCH >			
S04	1-771-169-11	SWITCH (TURN TABLE OPERATION DET)			
*	1-670-798-11	SW (B) BOARD			
		< SWITCH >			
S03	1-771-169-11	SWITCH (TURN TABLE POSITION DET)			
*	1-670-799-11	SW (C) BOARD			
		< SWITCH >			
S02	1-571-300-31	SWITCH, ROTARY (OPEN/CLOSE DET)			
*	1-670-800-11	SW (D) BOARD			
		< SWITCH >			
S01	1-571-300-31	SWITCH, ROTARY (OPTICAL PICK-UP DET)			

Ref. No.	Part No.	Description			Remarks
*	1-670-389-11	VR BOARD			
		< CAPACITOR >			
C626	1-162-306-11	CERAMIC	0.01uF	20% 16V	
C627	1-162-306-11	CERAMIC	0.01uF	20% 16V	
		< VARIABLE RESISTOR >			
VR601	1-475-807-11	ENCODER, ROTARY			
		MISCELLANEOUS			
⚠6	1-559-583-11	CORD, POWER (US, CND)			
⚠6	1-551-506-99	CORD, POWER (MX, SAF)			
⚠6	1-696-966-11	CORD, POWER (AUS)			
63	1-773-077-11	WIRE (FLAT TYPE) (18 CORE)			
163	1-759-417-11	DECK, MECH			
251	1-769-856-11	WIRE (FLAT TYPE) (5 CORE)			
⚠308	8-848-379-31	OPTICAL PICK-UP KSS-213B/S-N			
HE901	9-980-280-01	E HEAD (ERASE)			
HP901	9-980-287-01	HEAD (PLAY)			
HRP901	9-980-279-01	HEAD (REC/PLAY)			
M103	X-4948-765-1	MOTOR ASSY (TURN TABLE)			
M104	X-4948-766-1	MOTOR ASSY (A) (TRAY)			
M901	9-980-281-01	MOTOR (CAPSTAN/REEL)			
⚠PT302	1-431-939-11	TRANSFORMER, POWER (US, CND)			
⚠PT302	1-431-961-11	TRANSFORMER, POWER (MX, SAF)			
⚠PT302	1-431-962-11	TRANSFORMER, POWER (AUS)			
SW202	9-980-270-01	LEAF SWITCH (A DECK)			
SW203	9-980-270-01	LEAF SWITCH (B DECK)			
SW204	9-980-271-01	LEAF SWITCH (PLAY)			

ACCESSORIES & PACKING MATERIALS

1-475-826-11 REMOTE COMMANDER (RM-SG5)
1-501-594-11 ANTENNA, (FM)
1-501-374-11 ANTENNA , LOOP
3-862-423-11 MANUAL, INSTRUCTION (ENGLISH)
3-862-423-21 MANUAL, INSTRUCTION (FRENCH)
3-862-423-31 MANUAL, INSTRUCTION (SPANISH)
3-862-423-41 MANUAL, INSTRUCTION (FRENCHI/SPANISH/PORTUGUESE)
3-862-423-51 MANUAL, INSTRUCTION (GERMAN)
3-862-423-61 MANUAL, INSTRUCTION (DUTCH/ITALIAN)
3-862-423-71 MANUAL, INSTRUCTION

The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety. Replace only with part number specified.	Les composants identifiés par une marque ⚠ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

Ref. No.	Part No.	Description	Remarks
		(SWEDISH/DANISH/FINNISH)	
	3-862-423-81	MANUAL, INSTRUCTION (POLISH/RUSSIAN)	
	4-982-031-01	COVER, BATTERY (for RM-SG5)	

****

****
HARDWARE LIST
****

#1	7-685-647-79	SCREW +BVTP 3 × 10 TYPE2 IT-3	
#2	7-682-547-04	SCREW +BVTT 3 × 6 (S)	
#3	7-682-548-04	SCREW +B 3 × 8	
#4	7-685-106-19	SCREW +P 2 × 10 TYPE2 SLIT	
#5	7-685-131-19	SCREW +P 2.6 × 4 TYPE2 SLIT	
#6	7-685-139-29	SCREW, TAPPING, (M2.6 × 20)	
#7	7-685-134-19	SCREW +PTPWH 2.6 × 8 (TYPE2)	
#8	7-685-138-19	SCREW +BTP 2.6 × 16 TYPE2 N-S	
#9	7-624-118-01	RING, RETAINING E-2.5	
#10	7-685-903-31	SCREW +PTPWH 3 × 10 (TYPE2)	
#11	7-685-246-19	SCREW +KTP 3 × 8 TYPE2 NON-SLIT	
#12	7-685-547-14	SCREW +BTP 3 × 10 TYPE2 N-S	
#13	7-685-547-19	SCREW +BTP 3 × 10 TYPE2 N-S	
#14	7-685-549-14	SCREW +BTP 3 × 14 TYPE2 N-S	
#15	7-685-645-79	SCREW +BTP 3 × 6 TYPE2 N-S	
#16	7-685-660-79	SCREW +PTPWH 4 × 10 TYPE 2	
#17	7-685-903-21	SCREW +PTPWH 3 × 8 (TYPE2)	
#18	7-621-255-15	SCREW +P 2 × 3	

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Sony Corporation
Home A&V Products Company

9-922-792-11

HCD-GRX2/RX33

SONY

SERVICE MANUAL

US Model
Canadian Model
HCD-RX33

E Model
Australian Model
HCD-GRX2

CORRECTION-2

Correct your service manual as shown below.

Subject : Correction of electrical parts.

(ECN-TA803970)
(ECN-TA803983)

• **PARTS LIST**

Page	INCORRECT						CORRECT				
	Ref. No.	Part No.	Description			Remarks	Part No.	Description			Remarks
61	C02	1-126-963-11	ELECT	4.7uF	20%	50V	————	————			
	C04B	————	————				1-126-925-11	ELECT	470uF	20%	10V
	C07A	1-162-199-31	CERAMIC	10PF	5%	50V	1-162-201-31	CERAMIC	12PF	5%	50V
	C08	1-161-494-00	CERAMIC	0.022uF		25V	————	————			
	C23A	————	————				1-162-294-31	CERAMIC	0.001uF	10%	50V
	C26	1-161-494-00	CERAMIC	0.022uF		25V	————	————			
	C27	1-162-306-11	CERAMIC	0.01uF	20%	16V	1-136-154-00	FILM	0.012uF	5%	50V
	C28	1-164-159-11	CERAMIC	0.1uF		50V	1-162-306-11	CERAMIC	0.01uF	20%	16V
	C29A	————	————				1-126-927-11	ELECT	2200uF	20%	10V
	C30B	————	————				1-162-294-31	CERAMIC	0.001uF	10%	50V
	C38	1-102-958-00	CERAMIC	20PF	5%	50V	1-102-942-00	CERAMIC	5PF	0.5PF	50V
	C39	1-102-958-00	CERAMIC	20PF	5%	50V	1-102-942-00	CERAMIC	5PF	0.5PF	50V
	C46	1-126-933-11	ELECT	100uF	20%	10V	1-126-934-11	ELECT	220uF	20%	10V
	C51	1-162-288-31	CERAMIC	330PF	10%	50V	1-162-289-31	CERAMIC	390PF	10%	50V
	C52	1-162-288-31	CERAMIC	330PF	10%	50V	1-162-289-31	CERAMIC	390PF	10%	50V
	C53	1-162-284-31	CERAMIC	150PF	10%	50V	1-162-288-31	CERAMIC	330PF	10%	50V
	C54	1-162-284-31	CERAMIC	150PF	10%	50V	1-162-288-31	CERAMIC	330PF	10%	50V
	C55	1-162-284-31	CERAMIC	150PF	10%	50V	1-162-288-31	CERAMIC	330PF	10%	50V
	C56	1-162-284-31	CERAMIC	150PF	10%	50V	1-162-288-31	CERAMIC	330PF	10%	50V
	C84	1-162-282-31	CERAMIC	100PF	10%	50V	————	————			
	C85	1-162-292-31	CERAMIC	680PF	10%	50V	1-162-294-31	CERAMIC	0.001uF	10%	50V
	C86	1-162-282-31	CERAMIC	100PF	10%	50V	1-162-294-31	CERAMIC	0.001uF	10%	50V
	C87	1-162-282-31	CERAMIC	100PF	10%	50V	1-162-294-31	CERAMIC	0.001uF	10%	50V
	C88	1-162-282-31	CERAMIC	100PF	10%	50V	1-162-294-31	CERAMIC	0.001uF	10%	50V
	C90	1-161-494-00	CERAMIC	0.022uF		25V	1-164-159-11	CERAMIC	0.1uF		50V
62	D01	8-719-911-19	DIODE	ISS119-25			8-719-991-33	DIODE	ISS133T		
	D04	8-719-921-41	DIODE	ISS113T			8-719-921-41	DIODE	MTZJ-5.1		
	D04A	8-719-991-33	DIODE	ISS176			8-719-991-33	DIODE	ISS133T		
	IC02	8-759-388-27	IC	TC9173P			8-759-234-75	IC	TC74HC4094AP		
	IC03	8-759-429-31	IC	BA5941FP			8-759-579-80	IC	BA5936S		
	R03	1-249-397-11	CARBON	22	5%	1/4W	1-249-393-11	CARBON	10	5%	1/4W
	R14	1-247-879-11	CARBON	100K	5%	1/4W	1-249-438-11	CARBON	56K	5%	1/4W
	R15	1-247-881-00	CARBON	120K	5%	1/4W	1-249-440-11	CARBON	82K	5%	1/4W
	R26	1-247-855-11	CARBON	10K	5%	1/4W	1-249-431-11	CARBON	15K	5%	1/4W
	R27	1-249-430-11	CARBON	12K	5%	1/4W	1-249-385-11	CARBON	2.2	5%	1/4W
	R28	1-247-855-11	CARBON	10K	5%	1/4W	1-274-871-11	CARBON	47K	5%	1/4W
	R36	1-247-847-11	CARBON	4.7K	5%	1/4W	1-249-411-11	CARBON	330	5%	1/4W
	R50	1-247-847-11	CARBON	4.7K	5%	1/4W	1-247-867-11	CARBON	33K	5%	1/4W
	R53	1-249-411-11	CARBON	330	5%	1/4W	1-249-432-11	CARBON	18K	5%	1/4W
	R58	1-249-442-11	CARBON	510	5%	1/4W	1-249-417-11	CARBON	1K	5%	1/4W
	R65	1-247-864-11	CARBON	24K	5%	1/4W	1-247-867-11	CARBON	33K	5%	1/4W
	R66	1-247-864-11	CARBON	24K	5%	1/4W	1-247-867-11	CARBON	33K	5%	1/4W
	R67	1-247-864-11	CARBON	24K	5%	1/4W	1-247-867-11	CARBON	33K	5%	1/4W
	R68	1-247-864-11	CARBON	24K	5%	1/4W	1-247-867-11	CARBON	33K	5%	1/4W
	R79	1-249-405-11	CARBON	100	5%	1/4W	1-249-409-11	CARBON	220	5%	1/4W
	R89	1-247-839-11	CARBON	2.2K	5%	1/4W	1-249-432-11	CARBON	18K	5%	1/4W
	R90	1-247-839-11	CARBON	2.2K	5%	1/4W	1-247-855-11	CARBON	10K	5%	1/4W
	R91	1-247-839-11	CARBON	2.2K	5%	1/4W	1-249-432-11	CARBON	18K	5%	1/4W
	R92	1-247-839-11	CARBON	2.2K	5%	1/4W	1-247-855-11	CARBON	10K	5%	1/4W
	R93	1-249-420-11	CARBON	1.8K	5%	1/4W	1-247-867-11	CARBON	33K	5%	1/4W
	R94	1-249-420-11	CARBON	1.8K	5%	1/4W	1-247-863-11	CARBON	22K	5%	1/4W

9-922-792-92

Sony Corporation
Home A&V Products Company

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: Indicates corrected portion

【CD DECODER BOARD】